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AND THE TEACHER

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PREFACE TO NINTH EDITION.

IN this edition of the 'Elements,' the newly-constituted German Empire (including the territory acquired from France), finds its proper place; the Kingdom of Italy, now embracing the late Papal States, is exhibited for the first time in its integrity; while as regards the British Isles, the results of the Census of 1871, so far as hitherto published, are in every instance adhibited. With respect to other countries, more especially our own Foreign Possessions, numerous slight alterations and corrections will be found on almost every page, thus putting the 'Elements' fairly abreast of the new and improved edition of the Author's 'Manual of Modern Geography,' issued a few months ago. At the same time, however, and in order to obviate all inconvenience to Teachers possessing copies of former editions, the greatest care has been taken to preserve the *identity* of the 'Elements' in every section and paragraph.

HATTON PLACE, EDINBURGH,
September 20, 1871.

PREFACE TO FIFTH EDITION.

THE Author has thoroughly revised the Fifth Edition, and introduced such changes as the progress of the science rendered necessary. Recent investigations have materially modified the conclusions of Astronomers regarding the Sun's distance from the Earth and from the other members of the Solar System, while ten new Minor Planets have been discovered. These, with numerous other corrections and additions, will be found detailed in the article on Mathematical Geography, to which is now appended a brief paragraph explanatory of the Tides. In Political Geography, the article on British India has been entirely rewritten, and the new orthography, so earnestly recommended by the Royal Asiatic Society and by all Educationists in that country, has been adopted. In case Teachers in this country should experience any inconvenience from this change, the former spelling, when widely different from the new, is invariably placed beside the latter in the "Notes on Towns" (p. 171-174). Such political changes as have taken place in Abyssinia, the West Indies, in Russian and British America, have been carefully noted, and numerous corrections made on other parts of the work.

EDINBURGH, *October 1868.*

CONTENTS.

	PAGE		PAGE
DEFINITIONS,	1		
MATHEMATICAL GEOGRAPHY,	1		
PHYSICAL GEOGRAPHY,	7		
	PAGE	ASIA— <i>continued.</i>	PAGE
EUROPE,	21	Persia,	164
British Isles,	32	Afghanistan,	166
England and Wales,	38	Biluchistan,	168
Scotland,	46	Hindustan,	169
Ireland,	52	Further India,	178
Spain and Portugal,	58	Chinese Empire,	181
France,	69	China Proper,	181
Belgium,	81	Mongolia,	186
The Netherlands,	84	Tibet,	187
Denmark,	88	Turkestan,	189
German Empire,	92	Siberia,	191
Minor German States,	92	Japan,	194
Prussia,	98		
Austria,	102	AFRICA,	196
Switzerland,	111	Egypt,	203
Italy,	116	Nubia and Kordofan,	206
Greece,	125	Abyssinia,	207
Turkish Empire,	129	Barbary States,	208
Turkey in Europe,	130	The Sahara,	210
Russian Empire,	135	Senegambia,	211
Russia in Europe,	135	Soudan,	213
Sweden and Norway,	145	Guinea,	215
		Country of the Hottentots,	217
ASIA,	150	South Africa, or Cape Col-	
Asiatic Turkey,	157	ony, Natal, &c.	218
Arabia,	161	East Africa,	221

	PAGE	S. AMERICA—continued.	PAGE
NORTH AMERICA,	222	Venezuela,	264
British North America,	228	Guiana,	267
Dominion of Canada,	229	Brasil,	268
Newfoundland,	229	Peru,	271
Prince Edward Island,	229	Bolivia,	274
British Columbia,	235	Chilé,	277
Manitoba, or Rupert's		Argentine Confederation,	278
Land,	236	Paraguay and Uruguay,	280
Labrador,	237	Patagonia,	281
Greenland or Danish			
America,	237	OCEANIA,	283
United States,	238	Australasia,	283
Mexico,	247	Australia,	284
Central America,	252	Tasmania,	289
West Indies,	255	New Zealand,	290
		Papua,	291
SOUTH AMERICA,	258	Malaysia,	292
Colombia,	264	Micronesia,	295
United States of Col-		Polynesia,	296
ombia,	264		
Ecuador,	264	ANTAROTICA,	297

ABBREVIATIONS.

Δ=a in *father*; ũ=ε in *rule*.

C.	Cape.	W.	West.
Co.	Coast.	affl.	affluent.
E.	East.	bet.	between.
F.	Firth.	b.-p.	birth-place.
Fd.	Fiord.	cap.	capital.
G.	Gulf.	conf.	confluence.
Hd.	Head.	ft.	feet.
I.	Island.	h. s.	highest summit.
L.	Lake.	lat.	latitude.
Mt.	Mountain.	l.	left bank.
N.	North.	m.	miles.
Pt.	Point.	mnf.	manufacture.
S.	South.	n.	near.
Sd.	Sound.	par.	parallel.
Str.	Strait.	sq.	square.

*. * For further explanations see footnote at page 38.

ELEMENTARY GEOGRAPHY.

GEOGRAPHY is the science which describes the surface of the earth, or of that member of the solar system which forms the abode of man. It consists of three principal parts—viz., Mathematical, Physical, and Political Geography.

Mathematical Geography treats of the form, motions, and size of the earth; of its relation to the other orbs that with it constitute the solar system; and of the exact position of places on its surface.

Physical Geography treats of the configuration of the earth's crust; the materials of which it is composed; and the effects of climate on its living inhabitants.

Political Geography treats of the artificial divisions of the land into states and empires, their extent, population, government, religion, language, and material resources.

MATHEMATICAL GEOGRAPHY.

THE SOLAR SYSTEM.—The earth on which we live is only one of the members of a large family of similar bodies, collectively called the *Solar System*, because the sun (in Latin, *sol*) is by far the largest body belonging to it, and because all the other members of the system revolve around him, deriving from him their light and heat.

So far as known at present, the solar system consists of 141 distinct bodies, besides the great central luminary, and a vast number of comets which move around him with inconceivable velocity and in very eccentric orbits. All these are united in one beautiful and harmonious whole by the mysterious power of gravitation—a power, doubtless, which directly emanates from the divine hand that formed them, and which completely regulates all the parts of this stupendous piece of mechanism. The 141 bodies above referred to may be regarded as forming three distinct classes. We have, first, 9 large *planets*—viz., Vulcan, Mercury, Venus, the Earth, Mars, Jupiter, Saturn, Uranus, and Neptune, all of which

revolve around the sun in nearly circular orbits, in well-defined periods, and at curiously regulated distances from the sun and from each other. Next, we have 114 *planetoids*, or small planetary bodies, situated between the orbits of Mars and Jupiter, and supposed by some to be the fragments of a large disrupted planet; and, finally, we have 18 *satellites* or moons, performing elliptical orbits around certain of the larger planets, and not immediately around the sun. One of these moons belongs to the earth, 4 to Jupiter, 8 to Saturn, 4 to Uranus, and 1 to Neptune. Only a very few of this large number of bodies were known to the ancients—viz., the Earth, Moon, Mercury, Venus, Mars, Jupiter, Saturn, and a few of the more remarkable comets. All the remainder have been discovered since the invention of the telescope, in the beginning of the seventeenth century. To Galileo, the Italian astronomer, belongs that high honour, and he had his brilliant reward; for the very first glance he gave to the heavens through his newly-invented instrument, he discovered the four satellites of Jupiter. Uranus was discovered by Sir William Herschel in 1781; Neptune, by Adams and Leverrier, in 1846; and all the planetoids during the present century. Every year, indeed, is adding new members to the system, as instruments are improved and the number of observers multiplied. The following table exhibits in detail the principal facts which modern science has ascertained in regard to the different members of

THE SOLAR SYSTEM.

Name and Order of the Planets.	Mean Distance from the Sun in Miles.	Time of Revolution round the Sun in Days.	Velocity in Orbit per hour in Miles.	Time of Rotation on Axis in Solar Days.	Equatorial Diameter in Miles.	Volume, the Earth being reckoned one.	Polar Diameter in Miles.
				Days h. m.			
Vulcan	13,082,000	19.70	174,000	..	785?	..	..
Mercury	35,398,000	87.97	105,330	1 0 5	2,962	0.052	2,962
Venus	68,130,000	224.70	77,050	0 23 21	7,510	0.851	7,510
Earth	91,430,000	365.24	65,533	0 23 56	7,925	1.000	7,899
Mars	139,312,000	686.98	53,090	1 0 37	4,920	0.139	4,036
Planetoids	257,000,000	1,684.74	39,882	..	* 670?	..	670?
Jupiter	475,000,693	4,332.62	28,744	0 9 55	88,400	1,387.431	83,151
Saturn	872,135,000	10,759.30	21,221	0 10 29	71,904	746.898	64,714
Uranus	1,753,851,000	30,686.82	14,963	0 9 30	33,024	72.359	29,722
Neptune	2,746,271,000	60,126.71	11,953	..	36,620	98.664	36,620
Sun	..	..	..	25 7 48	853,380	1,200,000,000	..
Moon	..	..	..	27 7 43	2,158	0.024	2,158

RELATION OF THE SOLAR SYSTEM TO THE UNIVERSE.—The Solar System forms but a very small part of the material universe. When we survey the heavens at night, we behold a multitude of luminous objects called *fixed stars*, which by their paler and more silvery light, and still more by their twinkling, are easily distinguished from such of the *planets* as can be seen by the naked eye, all of which shine with a yellowish, mellow, and steady ray.

Number of the Stars.—The fixed stars appear to the spectator to be of very different sizes, and this difference enables the astronomer to arrange them into classes, and thus to form some estimate of their number. Those visible to the naked eye are divided into six classes. The brightest are said to be of the first magnitude, and are few in number; those of an inferior degree of brightness, of the second magnitude; and so on, down to those of the sixth magnitude, or the smallest that can be seen without a telescope. The total number of stars visible to the naked

eye, in a clear moonless night, is 5000. It is only at the equator, however, that so large a number can be seen; for there only has the spectator the opportunity of seeing the whole heavens without altering his position. Should he take up his position at either of the poles, no more than half the starry firmament can ever pass in review before him; while at all intermediate positions, the number of stars visible in any one night will depend on the latitude of the place. The telescope vastly extends our power of vision, and astronomers are familiar with stars of the *sixteenth* degree of magnitude. No fewer than 13,000 stars belong to the seventh magnitude alone; while the total number of stars visible by means of the best telescopes is estimated at 500,000,000,000, or half a million of millions!

Distance of the Stars.—The distance of the fixed stars from our sun is as inconceivable as their number, and till recently there were no reliable facts on which to build any probable calculation. In the year 1838, however, the parallax (or angle subtended by the diameter of the earth's orbit, as seen from a star) was measured in the case of three of them, viz., *Alpha Centauri*, 61 *Cygni*, and *Alpha Lyrae*, whose respective parallaxes were ascertained to be *one second*, *one-third* of a second, and a *quarter* of a second. The major diameter of the earth's orbit being about 185,930,000 miles, a parallax of one second will give a distance of twenty billions of miles, or 7000 times the distance of Neptune from the sun. This, then, is the probable distance of our sun from the nearest fixed star,—a distance so great that light, which travels at the rate of 192,000 miles per second, would require $3\frac{1}{2}$ years to traverse it. The distance of the star 61 *Cygni*, its parallax being only one-third of a second, will be three times as great, and of *Alpha Lyrae* four times. The distance of 12 fixed stars is now approximately determined.

Magnitude of the Stars.—The actual magnitude of even the nearest of the fixed stars is still very uncertain; though it is the general belief of astronomers, founded on careful calculations, that many of them are greatly larger than our sun. Were our luminary and *Alpha Centauri*, for example, to exchange places, it is calculated that we should enjoy $2\frac{1}{2}$ times more light than we do at present, while not only would the sun cease to be visible to the naked eye, but no telescope yet invented could give us any idea of his size; and hence, it is argued, that star is $2\frac{1}{2}$ times larger than our luminary. The illuminating power of *Sirius* is 147 times greater than that of the sun, and that star is therefore supposed to be 147 times larger than our luminary. But considerable uncertainty attaches to this method of determining the magnitude of the heavenly bodies; for the amount of light which reaches our world from a star does not depend on its magnitude alone, but also on its distance.

Motion of the Stars.—The so-called “fixed stars” are, in reality, all in motion, and no fixed point—no object absolutely at rest—can be met with in the material universe. The power of gravitation, which binds together the numerous members of the solar system, appears to be equally operative among the most distant objects in space. The *relative* distances of the fixed stars, and, consequently, the configuration of the constellations, are imperceptibly but daily altering. Of all the bright stars known to the ancients, not one has kept its place unchanged. While some vary only the twentieth part of a second annually, others vary from seven to eight seconds. Even our own sun, so long regarded as stationary, is now ascertained to be in rapid motion through space, carrying our earth and the other planets in his train, and traversing

daily a distance of 422,000 miles—a space nearly equal to his own radius. Sir W. Herschel, three-quarters of a century ago, arrived at the conclusion that the sun was moving in the direction of the constellation *Hercules*; but science has not yet determined whether this motion be in a straight line or in a curve, and if the latter, what that point in space is around which he is revolving. Dr Mädler, of Dorpat, indeed, hazards the conjecture that the star *Alcyone*, the brightest orb in the beautiful constellation Pleiades, is the grand central point in the heavens around which our system is moving. The distance of our sun from that centre he calculates at 31,000,000 times the distance of the earth from the sun—a distance so great that light would not traverse it in less than 500 years, and requiring 18,000,000 years for one complete revolution! As yet, however, this can be regarded only as a conjecture.

THE EARTH.—Having thus briefly treated of the relation of the earth to the solar system, and of the latter to the stellar universe, we now proceed to consider more particularly the earth itself.

Form and Size of the Earth.—In common with all the other planets, the form of the earth is that of a sphere somewhat flattened or compressed at the poles, like an orange; or, it is the form which a perfect sphere of semi-fluid consistency would assume were it made to rotate around its own axis with the same rapidity as the earth does. Such a form is called an *oblate spheroid*.* The larger or equatorial diameter exceeds the polar diameter by 26 miles—the former being 7925 and the latter 7899 miles. In round numbers, the radius or semi-diameter may be stated at 4000 miles; the diameter at 8000 miles; the circumference at 25,000 miles; the area or superficial content at 197,000,000 square miles; and the volume or solid content at 260,000,000,000 cubic miles.†

Motions of the Earth.—The earth has three distinct motions:—1st, That referred to above, in accompanying the sun through space, with a velocity of 420,000 miles per day, or 17,500 miles per hour; 2d, Its annual or orbital motion round the sun in 365 days, 5 hours, 48 minutes; and, 3d, Its diurnal motion round its own axis in 24 solar hours, the equatorial parts moving at the rate of more than 1000 miles per hour.

* Among the numerous proofs of the spherical form of the earth, the following may be mentioned:—1. A much greater extent of the earth's surface is visible from the top of a mountain than from a plain near the level of the sea. 2. As the mariner nears the land, he first sees the tops of the mountains, and, on approaching nearer, discerns the lower grounds. 3. In cutting for a canal, it is found that allowance must be made for a dip of about eight inches per mile, in order to keep the water at a uniform level. 4. In travelling to any considerable distance, either north or south, new stars come to view in the direction in which the traveller is advancing, while others disappear in the direction from which he is receding. 5. Many navigators who have sailed constantly in one general direction, whether due east or due west, have returned to the port from which they set out. 6. The shadow which the earth casts on the moon during an eclipse is always circular. 7. All the other members of the solar system are spherical.

† The circumference of a circle is found by multiplying its diameter by 3.1416, or by $8\frac{1}{4}$, and its area by multiplying the circumference by half the radius. The area of a globe is equal to the convex area of its circumscribing cylinder; while its solid content is equal to two-thirds of the solid content of the circumscribing cylinder. More briefly, the area of a sphere = diam.² × 3.1416; while its solid content = $\frac{\text{rad.} \times \text{area}}{3}$

The axis is an imaginary line passing through the earth's centre, and inclined to the plane of its orbit at an angle of nearly $23\frac{1}{2}$ degrees. The axis always remains parallel to itself; or, in other words, its extremities, which are called its poles, always point to the same fixed stars, and present themselves alternately to the sun—thus giving rise to the variety of *Seasons*, as the diurnal motion causes the alternation of day and night. If the axis of the earth were perpendicular to the plane of her orbit, one constant climate would characterise the same zone of latitude throughout the year, and all the benefits which result to mankind from the regular succession of the seasons would have been wanting. (For beautiful illustrations of the Seasons, see A. K. Johnston's 'School Atlas of Astronomy'.)

Mathematical Divisions of the Earth.—In order to describe with precision the position of places on the earth's surface, and the effects that result from its orbital and diurnal motions, certain imaginary lines are drawn round it, which are called *great circles* when they divide it into two equal hemispheres, and *small circles* when they divide it unequally. The principal great circles are the equator, meridians, and ecliptic; and the small circles are the tropics, the parallels of latitude, and the polar circles.

The *Equator* is a large circle, equidistant from the poles, which divides the earth into a Northern and a Southern Hemisphere. The latitude of all places on the surface is measured from this line, north and south, and their longitude on it, east and west.

The *Meridians*, or lines of longitude, are great circles passing through the poles, and cutting the equator at right angles. Each of them divides the earth into two hemispheres, which, in respect to each other, may be termed east and west. There are 12 meridians commonly drawn on globes, each 15° apart, equal to a difference in time of one hour; but every place is supposed to have a meridian passing through it, and when the sun comes to that meridian it is noon or mid-day at that place. The *longitude* of a place is its distance east or west from the *first meridian*, or the one from which we agree to count. As nature supplies no particular spot from which longitude should be counted in preference to all others, the first meridian varies with different nations. Thus, the French reckon from the meridian of Paris, the Spaniards from that of Cadiz, and the English from the Royal Observatory at Greenwich. When the latitude and longitude of a place are known, its exact position on the globe may at once be pointed out.

The *Ecliptic* is a great circle, which represents the sun's apparent annual track among the stars. It derives its name from being the circle on or near which the moon must be in the case of an *eclipse*. Its plane makes an angle of $23\frac{1}{2}^\circ$ with the plane of the equator. The sun is in the north, or highest point of the ecliptic, on the 21st day of June, and he is then vertical at noon at all places on the Tropic of Cancer; and he is in the south, or lowest point, on the 21st of December, and is then vertical at noon at all places on the Tropic of Capricorn. The Ecliptic is divided into twelve equal parts, called *signs*, of 30° each, named from the constellations, or groups of stars, through which the sun appears to pass during the year.

The *Tropics* are two small circles, parallel to the equator, and at the distance of $23\frac{1}{2}^\circ$ north and south. They are so named, because the sun, when arrived at them in his apparent annual course, *turns back* and proceeds in the opposite direction. The northern is called the Tropic of Cancer, and the southern the Tropic of Capricorn, because they coincide with the ecliptic in the beginning of those signs.

The *Parallels of Latitude* are small circles parallel to the equator, the object of which is to indicate the latitude of places, or their distance from the equator. Though on globes and maps of the world they are usually drawn at intervals of 10° , every place is supposed to have a parallel of latitude passing through it. The *Polar Circles* are two small circles drawn round either pole, at a distance of $23\frac{1}{2}^\circ$, the northern being named the Arctic, and the southern the Antarctic Circle. When the sun is vertical to places situated on the Tropic of Cancer, his rays extend beyond the Pole to the Arctic Circle, and all places within the Antarctic Circle are then in darkness.

Zones.—The Tropics and Polar Circles divide the surface of the earth into five great Belts or Climatic *Zones*.

The Torrid Zone, 47° in breadth, or $23\frac{1}{2}^{\circ}$ on either side of the equator, is bounded by the Tropics of Cancer and Capricorn. Every place in this wide region has the sun vertical to it twice a year; and as the sun's rays never fall very obliquely on any part of it, the temperature at the surface of the earth is always very high. There are two Temperate Zones, one northern and the other southern, each 43° in breadth, extending from the Tropics to the Polar Circles. Never having the sun vertical, they are characterised by a lower temperature than tropical regions; the fruits of the earth are less luxuriant and spontaneous; and man, compelled to exercise his bodily and mental powers, attains to a higher degree of civilisation than in tropical regions, where his wants are supplied without any exertion on his part. The two Frigid Zones, extending from the Poles to the Polar Circles, are deprived of the sun for long intervals in winter, and have a correspondingly greater length of day in summer, when, however, his rays fall very obliquely on the surface. The winter cold is fearfully intense, the subsoil permanently frozen to a great depth, and the summer of short duration. Hence the tribes inhabiting those regions have never been able to attain to any considerable degree of civilisation, and human happiness is reduced to a minimum.

The Moon, or the Earth's Satellite.—The earth, on her annual journey round the sun, is attended by a moon or satellite, which revolves round her in the same way as the former does round the central luminary. Of the four planets and numerous planetoids situated between the centre of the system and the orbit of Jupiter, the earth alone enjoys the advantage of such a companion; while all the other planets possessed of satellites are not only of vastly greater dimensions, but also greatly farther from the sun. The mean distance of the moon from the earth is 239,840 miles, or little more than half the sun's radius, and she performs her revolution round her primary in one lunar month of 29 days, 12 hours, 44 minutes. It is a remarkable fact that this is also the precise time in which she rotates round her own axis. Hence, at all times, the moon presents very nearly the same face to the earth. The time of her rotation is much longer than that of any of the planets; but, so far as yet ascertained, all the other satellites belonging to our system follow the same law—that is, they rotate on their axes in the same time as they revolve around their primaries. Unlike the sun and fixed stars, which are self-luminous, the moon, in common with all the planets and satellites, shines by reflected light derived from the central luminary. Her orbit is inclined to that of the earth at an angle of $5^{\circ} 9'$, but for which we should have an eclipse of the sun and moon alternately every fortnight. There is a *total* eclipse of the sun when the moon is near the earth, and the sun, earth, and moon in the same straight line; and an *annular* eclipse when, being more remote from the earth, her apparent diameter is less than that of the sun. The surface of the moon presents the aspect of a world in ruins, being interspersed with enormous mountains, and no diversities of sea and land being discernible.

Tides.—The moon's attractive energy (aided by that of the sun at new and full moon) raises the waters of the ocean into a great tidal wave, which seems to follow the satellite in her path through the heavens. This attraction, however, directly accounts for only one high tide at any place every lunar day of 24 hours, 50 minutes; whereas, in reality, there are two high tides, occurring at intervals of 12 hours, 25 minutes. The other takes place at the same instant, but on the opposite side of the earth's surface, and is caused by the moon drawing towards her the nearer or solid part of the planet with greater force than the more distant waters.

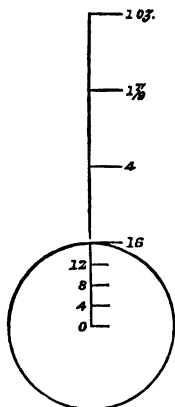
PHYSICAL GEOGRAPHY.

OF the interior of the planet which we inhabit we know almost nothing, our observation being confined to a small fraction of its external crust, not exceeding eight miles in depth, or the five-hundredth part of the distance from the earth's surface to its centre. Even this insignificant distance is attained by adding the height of the loftiest known mountain (Mount Everest) to the depth below the level of the sea of the deepest known mine (that of Minden in Westphalia). The geologist, however, without penetrating beneath the surface at all, but by carefully examining the order of superposition of the stratified rocks, has made us more or less acquainted with a depth of about 20 miles. Small as this portion is when compared with the immense volume enclosed by it, it presents to our view a vast variety of substances, each of which has a character peculiar to itself.

Constituents of the Earth's Crust.—The myriads of substances of which the crust of our globe is composed are nearly all found to be *compound bodies*, which, on being analysed by the chemist, are reduced to 65 *simple or elementary substances*. These are divided into two classes—metallic and non-metallic. The metals are 52 in number, the best known of them being gold, silver, copper, iron, lead, tin, zinc, mercury; while the non-metallic class consists of 13, the principal of which are hydrogen, oxygen, nitrogen, carbon, sulphur, and phosphorus. On each of these the Creator has stamped, in deep and indelible characters, a *particular number*, which forms, as it were, the law of its being, and determines in what proportions it shall combine with other substances. The identity of species in the mineral kingdom is thus rigidly preserved, and notwithstanding the prodigious number of combinations found in nature, all confusion is avoided.

Density of the Earth.—Each of the 65 elementary substances has a *density or specific gravity* peculiar to itself, ranging from hydrogen, which is the lightest, to platinum, which is the heaviest; but the resulting mean density of the earth is about $5\frac{1}{2}$ the weight of its own bulk of distilled water at the temperature of 68° Fahrenheit. Comparing the earth, in this respect, with the other members of the solar system, we find that Venus and Mars are nearly equal to it; that Mercury is about three times greater; while the density of the sun, moon, and larger planets is greatly less. As the specific gravity of the substances forming the crust of the earth rarely exceeds 3.0, the obvious inference seems to be that the interior of the planet consists of materials in a highly condensed state, or else of substances wholly different in nature from those found on and near the surface.

Attractive Energy of the Earth.—All known bodies are found to possess an attraction for one another, which causes them, when left at rest, to move towards each other. This force is generally known as the power of gravitation, and is by far the most remarkable



of all the so-called properties of matter. The attractive energy which the earth exercises on all material substances near its surface is such, that, when freely suspended, they are drawn towards it with a velocity of 16 feet in the first second of time, 3 times 16 the next second, 5 times 16 the third second, and so on, following the order of the odd numbers of the scale. At great elevations above the surface, the intensity of the force of attraction *decreases in the inverse ratio of the square of the distance*. Thus, a body which, in a spring balance, weighs 16 ounces at the surface, will weigh only 4 ounces at the distance of one semi-diameter above the surface, or of two semi-diameters from the centre; while at the distance of four semi-diameters from the centre it will weigh only 1 ounce. *Under the surface the law of decrease is very different, it being there directly as the distance*. Thus, at 1000 miles below the surface, the body will weigh 12 ounces, half-way towards the centre, 8 ounces, &c. The accompanying diagram will render these

observations more intelligible to the pupil.

Configuration of the Surface.—The surface of the earth, comprising an area of 197,000,000 square miles, is very unequally divided into land and water. Without taking into account the inequalities produced by mountain-chains and other causes, the total area of the land is estimated at 51,500,000 square miles, or a little more than one-fourth of the entire surface; while the waters cover 145,500,000 square miles, or nearly three-fourths of the whole. The land is, moreover, very unequally distributed: thus, the northern hemisphere contains three times as much land as the southern; the eastern hemisphere twice as much as the western; while that which has London as its centre divides the surface in such a way that nearly all the land is embraced within it, the opposite hemisphere being nearly all water.

The Continents.—The land is farther broken up into huge distinct masses, called *Continents*, which, without reckoning Antarctica, are six in number—viz., Europe, Asia, Africa, North America, South America, and Australia. These, however, are not wholly detached from each other, but collected into groups, the members of which are, for the most part, united by isthmuses. Properly speaking, there are only three continents—viz., The Old World, containing Europe, Asia, and Africa; the New World, containing North and South America; and, lastly, the Australian Continent, consisting of but a single member. Of these three grand continents, the Old World is by far the largest and most important, having an area of 82½ million square miles, with a population exceeding 1000 millions; the New World, an area of 15,000,000 square miles, or less than a half of the former, and a population of 72,000,000, or one-fifteenth of the Old World; while Australia has an area of only 3,000,000 square miles, and a population little exceeding 1,000,000.

It is interesting to compare the two grand continents in respect to their form and elevation, or their *contour* and *relief*:—1. The greatest length of the Old World is from east to west, or in the direction of the parallels; while that of the New is from north to south, or in the direction of the meridians. 2. Both continents attain their greatest extension from west to east along the same parallel—viz., that of 30° N.; and each of them has its extreme north and south point on one meridian. 3. Both continents spread out widely towards the north, and closely approach each other at the parallel of 72°, where each is abruptly terminated by the Arctic Ocean; while towards the south they widely diverge, and narrow down to single promontories. 4. In either continent a large portion of the area is nearly detached from its principal mass: thus Africa is nearly severed from the one continent, and South America from the other. 5. All the great peninsulas follow a southerly direction, except Jutland and Asia Minor in the Old World, and Yucatan and Russian America in the New. 6. The opposite coasts of the two great continents are strikingly conformable to each other, the projections of the one being opposite to the indentations of the other, though separated by the breadth of the Atlantic. 7. Taking the six separate continents, it is a remarkable fact, that, with the exception of Africa, they all present to the ocean on their northern sides broad flats of low-lying land; while their southern extremities are pointed, rocky, and elevated. 8. While the three southern continents present to the ocean an almost unbroken outline, the three northern ones are highly indented.

In regard to *Elevation*, the following are among the most interesting facts:—1. All the continents rise gradually from the sea-shore towards the interior, where they attain their maximum elevation, thus presenting to the surrounding oceans two great slopes, which greatly differ, however, in length and degree of inclination. 2. In the Old World, the long and gentle slope is turned toward the north, and the short abrupt slope toward the south; while in the New World the gentle slope is toward the east, and the abrupt toward the west. 3. The long line in which the two great slopes meet in either continent, and which is called the *watershed* or *water-parting*, is usually occupied by a lofty mountain-chain. Hence in the Old World the general direction of the great mountain-ranges is from east to west, while in the New it is from north to south. 4. Similarly, all the more important islands and peninsulas of the globe are traversed in the direction of their greatest length by mountain-ranges. 5. It is estimated that if all the continents were reduced to a uniform natural level, the entire land would have an elevation above the sea-level of about 1000 feet; but the average depth of the ocean, as might be expected from its threefold greater area, is probably much greater. According to Mr Scott Russel, the average depth of the Atlantic is about 14,000 feet, and of the Pacific, nearly 20,000 feet.

The Ocean.—Nearly three-fourths of the entire superficies of the earth are permanently covered with water, the surface of which, when calm, forms a true natural level, all the parts of which are nearly equidistant from the earth's centre. Strictly speaking, it is of a spheroidal form, like that of an orange, and differs greatly from a dead horizontal level, such as the floor of an apartment. The surface of lakes, deserts, plains, and even of the continents, conforms itself to this natural level; it forms the limit from which all the elevations of the land and the soundings of the ocean are measured; and, in constructing a canal or railway along the surface, an allowance must always be made for this difference, amounting to about 8 inches in the mile. Unlike the continents, which are separated from each other by natural barriers, all the great waters of the globe are continuous and united; and hence, though there are three great continents, there is, strictly speaking, but one ocean. On inspecting an artificial globe, however, it will be seen that the three great continents are so arranged as, in a great measure, to separate from the entire body of waters three corresponding oceans. Thus, setting out from Europe, and pursuing a westerly course, the Atlantic is seen to separate the Old World from the New; the Pacific to separate the latter from Asia and Australia; and the Indian Ocean, Australia from Africa. The remaining portions of the great mass of waters—viz.,

those around either pole—are respectively named the Arctic and the Antarctic Ocean.

The *Atlantic* is about 9000 miles long, has a maximum breadth of 4100 miles, and a probable area of 25,000,000 square miles, or nearly half the area of the land-surface of the globe. It varies greatly in depth, from 2000 feet near the shores to 40,000 feet in the latitude of the Azores. It contains few islands, as compared with the Pacific, but exceeds all the other oceans in the number of seas and gulfs which it projects into the surrounding continents. Among its principal currents are the Equatorial Current, which, flowing along the coast of Southern Africa, discharges its contents into the Caribbean Sea; and the far more celebrated Gulf Stream, which, issuing from the Gulf of Mexico, with a temperature of 80° Fahr., flows in a N.E. direction till it arrives at the 40th degree of N. latitude, and then overflowing its liquid banks, spreads itself out for thousands of square leagues over the cold waters around—thus greatly mitigating the rigours of winter in Western Europe, and especially in the British Isles.

The *Pacific* is by far the grandest expanse of water on the globe, having an area estimated at 70,000,000 square miles, or greatly larger than the whole land-surface of the globe. Its greatest length is from E. to W., along the equator, a direction in which it extends for upwards of 12,000 miles; while its greatest breadth between Behring Strait and the Antarctic Circle is equal to the extreme length of the Atlantic, or 9000 miles. Its most important current is the Chile Current, which has its origin in the Antarctic regions, flows in a N.E. direction along the coasts of Chile and Peru, then westward between the tropics, producing a genial coolness where otherwise the heat would be almost insupportable. Opposite Lima, on the Peruvian coast, its temperature is 14° below that of the neighbouring ocean, and its bracing influences are perceptible as far west as the Marquesas, near the middle of the Pacific. The Pacific is further characterised by the immense number of islands and archipelagos that are scattered over its surface, many of which are of volcanic and others of coral formation.

The *Indian Ocean* extends from Africa to Australia, and from India to the Antarctic Circle. Its length and breadth are each about 6000 miles, and its area about 20,000,000 square miles. Like the Atlantic, whose area it nearly equals, it is remarkable for the large branches and inland seas with which it indents its boundaries, especially on the north; and for the immense rivers which it receives from the surrounding continents. Its waters being even hotter than those of the Gulf of Mexico, its currents play a no less conspicuous part in the circulation of the globe, and its surface is the principal theatre of the Trade Winds and Monsoons which so greatly affect the commerce and climate of Eastern lands. (See p. 12.)

The *Arctic Ocean* is nearly circular in form, being bounded by the northern shores of Europe, Asia, America, and Greenland, which terminate, in general, about the parallel of 72°. Its average breadth is about 2500 miles, and its area is estimated at about 4,000,000 square miles. Except on the Atlantic side, the waters of this ocean are virtually land-locked, the outlet by Behring Strait being only 86 miles wide, with a maximum depth of 25 fathoms. Its most practicable entrance for ships is between Norway and Iceland, that being the path pursued by the north-east branch of the Gulf Stream. The highest latitude hitherto attained in the Arctic Ocean is that of 82° 55', being little more than 7° from the North Pole—a point which, in all likelihood, will yet be reached, as the sea is usually open to ships, and contains no trace of a continent like that which probably surrounds the South Pole. Many unsuccessful attempts have been made, during the last 300 years, to discover the so-called *North-West Passage*, that is, a passage for ships from Europe through this ocean to the Pacific. The latest expedition with this view was that of Sir John Franklin, who sailed from this country in 1845, with two ships, and a crew amounting in all to 138 persons. Unhappily, the undertaking resulted in the destruction of the entire party, whose fate remained a mystery for many years, though numerous expeditions had been despatched in search of them. At length, in 1857, when all hope of ascertaining the fate of the voyagers had been abandoned, Lady Franklin, assisted by Sir Roderick I. Murchison and other friends, despatched the steam-yacht *Fox*, under Captain McClintock, to make a final search. This effort was successful; and in May 1859 that officer discovered, on King William's Island, a written document, stating that the missing ships had been blocked up there for twenty months; that Sir John Franklin had died in June 1847; and that in April 1848 crews had abandoned the vessels, in the hope of reaching the Hudson Bay

Territories, by ascending the Great Fish River. Some few of them appear to have got to Montreal Island, at the mouth of that river; but the testimony of the Esquimaux, and the discovery of skeletons, leave little room to doubt that they all ultimately perished. But though Sir John Franklin and his companions thus miserably perished, to him belongs the high honour of virtually discovering the long-looked-for North-West Passage, and of completing the water boundary of North America. The route thus discovered, however, is all but absolutely impracticable, and can never be of any avail in a commercial point of view.

The *Antarctic Ocean* is far less accurately known to geographers than any of the others, the cold being more intense, the winds and seas more boisterous, and the ice extending at least 10° nearer the equator than in the Arctic Ocean. The highest latitude hitherto attained in this ocean is that reached by Sir James Ross in 1841, who penetrated to lat. $78^{\circ} 4'$, or within 840 miles of the South Pole. In this latitude, and immediately south of New Zealand, his progress southward was arrested by an ice-bound shore, on which he landed, and which, in honour of his sovereign, he named South Victoria. Other navigators, in approaching the pole from other directions, have encountered similar obstructions, at considerably lower latitudes, as Adélie Land, S. of Australia; Enderby Land, S. of Madagascar; and South Shetland, S. of Cape Horn—all near the Antarctic Circle. Probably, therefore, the larger portion of the area embraced by the Antarctic Circle is occupied by a continent, which is nearly circular in form, and considerably larger than Europe; which is covered by eternal snows, and wholly devoid of vegetation; the shores of which are guarded by gigantic volcanoes, or by impenetrable barriers of ice, and whose interior has never been trodden by the foot of man. The probable area is about 4,000,000 square miles, and the temperature of the hottest month, even at the level of the sea, from 11° Fahr. to the freezing-point of water. Sir James Ross saw one very lofty mountain-chain, stretching away in the direction of the South Pole, containing several volcanic peaks, one of which, Mount Erebus, was 12,400 feet high.

THE ATMOSPHERE.—Many of the phenomena of Physical Geography cannot be explained without some previous acquaintance with that thin, invisible fluid called the atmosphere, which envelops the earth on all sides, which shares in its diurnal motion, and which accompanies it in its annual journey round the sun. In respect to *composition*, it consists almost exclusively of two gaseous substances, oxygen and nitrogen, in the proportion of 21 parts by weight of the former to 79 of the latter. It also contains a little carbonic acid gas, and a small variable quantity of aqueous vapour. Atmospheric air possesses considerable weight, 100 cubic inches of it weighing 31 grains, when the barometer stands at 30 inches, and the temperature being at 60° Fahr. Hence the weight on every square inch of surface at the level of the sea amounts to about 15 lb. avoirdupois, being the same as the weight of a column of water of equal base 34 feet high, or of a column of mercury of 30 inches in height. Being a highly elastic fluid, the density and pressure of the atmosphere rapidly diminish as we ascend upwards, each thousand feet of ascent near the surface producing a fall of about one inch in the barometer. At the height of 3.4 miles above the surface the pressure is therefore only $7\frac{1}{2}$ lb., or 15 inches of mercury. At great elevations, however, this law does not hold, and there are many reasons for inducing the belief that the height of the atmosphere is quite limited, and that it does not extend to a greater elevation than 40 or 50 miles. Its height, however, seems to be different in different latitudes, and is considerably greater in the Torrid than in the Frigid Zones. Any change in the density of a gaseous body is invariably accompanied by a corresponding change

in its temperature, the cold being greater as the density or pressure becomes less. Hence, when ascending the side of a mountain, the traveller feels the cold perceptibly increasing; and should the mountain be sufficiently lofty, he will find the summit covered with perennial snow. If the ascent is made within the tropics, this change of temperature is beautifully represented to the eye by a succession of climatic zones, each of which is occupied by a vegetation peculiar to itself, corresponding to the succession of zones that meet the traveller on his way from the equator to either pole.

Winds.—When the air is put in motion by any cause, a wind is produced; and no cause so powerfully contributes to such motion as local changes of temperature, arising from the unequal degree in which portions of the earth's surface are heated by the solar rays. In order to obtain a clear notion of the nature and direction of winds, it will be necessary to leave out of view the various inequalities of the earth's surface, and to regard it as uniformly spherical. In tropical regions, where the sun is always vertical at noon, his rays fall perpendicularly on the surface, and consequently with a far greater heating power than if they came down slantingly, as in the temperate and frigid zones. The heated surface communicates its own temperature to the stratum of air in contact with it, causing the latter to expand, and, with a diminished density, to ascend through a higher stratum, supported by which it flows off towards the nearest pole, its place meanwhile being supplied by a counter-current, proceeding from the pole to the equator. Hence we might expect that at any point on the surface in the northern hemisphere, northern winds would prevail throughout the year, while everywhere in the southern hemisphere they would blow incessantly from the south. And were the earth at rest, and no inequalities on its surface, such would be the actual direction of the winds throughout the year. But the earth rotates on its axis from west to east every twenty-four hours, its equatorial parts moving at the rate of 1000 miles per hour, while at the poles the surface remains at rest. Hence, in passing from the higher latitudes towards the equator, the cold currents of air arrive successively at regions of increased rotatory velocity; and as they cannot keep pace with this increase of motion, they necessarily hang back, and form currents flowing in a direction opposite to the rotation of the globe, that is, *from east to west*. Thus, by the combined effect of the rotation of the globe, and the difference of temperature at its surface, the northern and southern currents are deflected and modified, so as to become respectively the permanent *North-East* and *South-East Trade Winds*, which prevail on both sides of the equator to the 30th parallel. The action of the Trade Winds is most regular in the Atlantic and Pacific Oceans; but in the Indian Ocean and the S.E. of Asia, they undergo remarkable modifications, changing their direction at certain seasons of the year, and hence named *Monsoons*. These blow for six months of the year in one direction, and for the other six in an opposite one—the change occurring about the 15th April and the 15th October. The Monsoons regulate the alternations of the wet and dry seasons throughout South-western Asia—the rainy season of the W. coast of India corresponding with the prevalence of the S.W. monsoon, and that of the E. coast with the S.E. monsoon. They are also of great importance to commerce, for by them a ship can be wafted to a distant port, where

she remains till the monsoon changes, and then enjoys a favourable wind on her return voyage.

Rain, Snow, &c.—In considering the constituents of the atmosphere on a former page, we stated that the vapour of water was one of them. The quantity of such vapour, which is always very small, varies with the temperature, being greater when the temperature is high, and smaller when it is low. Seas, rivers, lakes, and moist ground are the sources from which the invisible vapour emanates, being produced by the action of winds and of the solar heat on the earth's surface. When the atmosphere has received as much vapour as it is capable of holding in the invisible form at any given temperature, it is said to be *saturated*; and should any more vapour enter it at this temperature, or should its temperature become lower from any cause, the superabundant vapour instantly becomes visible, and assumes the form of mist or clouds; or it is precipitated in the form of dew, hoar-frost, rain, snow, or hail. *Clouds* and *mist* are identical in their nature, and differ only in respect to elevation; for in each of them the vapour, formerly gaseous and invisible, has passed into the form of minute visible globules, which, from being hollow within, are possessed of such buoyancy as to become capable of floating in the atmosphere. When the surface of the ground has been reduced by radiation to a lower temperature than the stratum of air in contact with it, a portion of the aqueous vapour becomes condensed, and assumes the form of *dew*, or of *hoar-frost* when the ground is very cold. Should the reduction of the temperature of the atmosphere take place at a considerable elevation above the ground, by means of a cold current of air coming in contact with a warmer one saturated with vapour, a cloud is first produced; and if the reduction of temperature becomes great, the hollow vesicles of the cloud unite, then burst, and fall to the ground in the form of drops of *rain*. When the vesicles have been exposed to an intensely cold current of air, they are congealed into minute icy crystals, which attract one another, forming beautifully symmetrical flakes, which descend through the atmosphere in virtue of their greater gravity, and fall to the ground in the form of *snow*. Finally, when drops of rain, in their passage downward, make their way through a stratum of air below the freezing-point, they are solidified, and reach the earth in the form of *hailstones*.

Climate.—By the climate of a country is meant the prevailing character of its weather, or all those states and changes of its atmosphere which sensibly affect the organs of plants and animals. The climate of a place depends on many causes, as, for example, on its latitude, its elevation above the sea-level, the direction of its slope, its proximity to mountain-chains, or to large tracts of land or water, the direction of its prevailing winds, its annual fall of rain, the nature of the soil, the character of its vegetation, and the extent to which its soil has been cultivated.

The *latitude* determines the amount of solar heat which the place enjoys, and, what is of equal importance, the degree of inclination of the sun's rays at noon. Between the tropics, the solar rays descend at noon vertically, and thus produce their maximum effect; whereas in the temperate, and still more in the frigid zones, they descend slantingly. The *elevation* of the place is of as much importance as its latitude in determining its climate, for the more elevated any place is, the lower is its temperature; and it is well known that a change of level of only a few feet will alter its temperature as much as a change of latitude amounting to many miles. By continuing to ascend in any latitude, we at length arrive at what is called the *snow-line*, or the *line of constant congelation*. This line attains its maximum height in the torrid zone, not however at the equator, &c

we should have expected, but near the tropic of Capricorn. In the Bolivian Andes, at latitude 18° S., it has an elevation of 18,500 feet, or 2700 feet higher than in the Andes of Quito, under the equator. From this extreme height the snow-line gradually descends, though at a rate not yet fully ascertained, till it reaches the polar regions, where it is found at the level of the sea. The *slope* or *aspect* of a country affects its climate most in the temperate zones, for when the aspect of the country is towards the sun at noon, the sun's rays fall more directly on it than when the surface fronts the contrary direction. In the south of Siberia, for example, which is situated in the same latitude as Ireland, but the surface of which slopes towards the north, mercury freezes in winter; whereas in Ireland the myrtle grows in the open air. Countries which are situated near an ocean are less subject to the extremes of heat and cold, than if situated in the interior of a continent. Thus London enjoys a milder winter and a cooler summer than Paris, which is 7° farther south. The *prevailing winds* at any given place greatly affect its climate; for winds that have crossed wide tracts of ocean are genial and moist, whereas those that have traversed the breadth of a continent are cold and parching. The *annual fall of rain* is very unequal in different regions of the globe; but, 1. generally speaking, it is more abundant in tropical regions than in higher latitudes, as evaporation proceeds more rapidly in hot than in cold countries. 2. The number of rainy days is greater the farther the place is from the equator. 3. The amount of rain decreases in ascending from low-lying plains to elevated plateaux; but increases the farther we ascend the rugged slopes of mountain-chains. 4. The quantity of rain decreases as we proceed from the shores of continents towards their interior. 5. Within the tropics the eastern shores of continents, owing to their exposure to the trade winds, are more humid than the western; while in the temperate zones the reverse is the case.

MINERALOGY.—The sixty-two constituent elements (see p. 7) forming the earth's crust are, in general, characterised by a strong affinity for each other, disposing them to form compound bodies, each of which possesses properties widely different from those of their constituents. These compounds are termed *Minerals*, and the science which treats of their forms, composition, and other properties is named *Mineralogy*. The number of minerals already analysed and described is very great, amounting to about 500 species, some of which embrace a considerable number of varieties. The 500 species are usually grouped into 37 families, and 7 orders or classes:—1. The first class, that of *Oxidised Stones*, embraces 12 families—viz., quartz, felspar, scapolite, haloid stones, leucite, zeolite, mica, hornblende, clay, garnet, gems, and metallic stones. 2. *Saline Stones*, embracing calc-spar, fluor-spar, heavy spar, gypsum, rock salt. 3. *Saline Ores*, including sparry iron ores, copper salts, lead salts. 4. *Oxidised Ores*, comprising oxidised iron ores, tin ores, manganese ores, red copper ores, white antimony ores. 5. *Native Metals*. 6. *Sulphureted Metals*, embracing pyrites, lead glance, grey antimony ores, zinc blende, ruby blende. 7. *Inflammables*, comprehending sulphur, diamond, coal, mineral resins, and inflammable salts.

GEOLOGY.—Minerals aggregated together so as to form large masses, are technically called *Rocks*. These, according to their structure, are of two kinds—either consisting of minute particles of the same mineral, or of several different minerals aggregated together. The former are termed *simple*, the latter *mixed rocks*. Thus, for instance, marble, which consists of nothing but grains of carbonate of lime, is a simple rock; while granite, which is made up of small crystals of quartz, felspar, and mica, is a mixed rock.

The component parts of a rock are either crystallised together, or united by a non-crystalline cement, in the same way as mortar binds the stones of a wall. As compared with the vast variety of minerals, the number of distinct rocks is exceedingly small. They are also pretty uniformly distributed over the globe, while none of them is peculiar to any particular country. Thus, while the plants and animals of tropical regions differ exceedingly from those of the frigid zone, the materials which form the mountain-ranges, as well as the pebbles along the sea-shore, are everywhere the same. There is, however, considerable local variety, depending on the geological character of the place. Thus, a traveller setting out from London, either to Berwick or Land's-End, will find the character of the rocks continually varying as he proceeds from county to county; and before he arrives at his destination, he will have passed in review almost every variety of rock in the geological scale. In like manner, when a considerable *section* of the earth's crust is exposed to view—as in sea-cliffs, quarries, mines, or railway-cuttings—a great variety of rocks is discernible; but they may be all reduced to two principal kinds—*stratified* and *unstratified*. The former are arranged in regular beds or layers, which may be either horizontal or sloping; while the latter are found in shapeless, indeterminate masses, destitute of any such arrangement. The stratified rocks are also named *aqueous* or *sedimentary*, there being no doubt of their having been deposited in the form of sediment by the waters of the ocean, seas, lakes, and rivers, which always hold mineral matter in suspension. The unstratified rocks, on the other hand, are termed *igneous*, being regarded as having been formed by the agency of heat, at a time when the temperature of the earth's crust was immeasurably higher than at present.*

Stratified Rocks.—These are divided by geologists into two great series—the crystalline or metamorphic rocks, and the fossiliferous. The former are usually found immediately above the granitic, separating them from the fossiliferous strata above, and embrace the following

* Most geologists are of opinion that our planet was in an incandescent state in the earlier stages of its existence, just as the sun and fixed stars are by some supposed to be at the present day. In the course of ages, according to this hypothesis, the exterior portion gradually cooled down, and the materials of which it consisted, previously in a molten state, came by degrees to assume the consolidated form which the crust of the earth now presents, while the interior still retains its former intense heat. Whatever view we may form of this hypothesis, there can be no doubt of the fact that the lower we penetrate into the bowels of the earth the temperature gradually increases. A thermometer placed in any locality only 4 feet below the surface, no longer indicates the changes of the daily temperature, but merely those of the year. Again, at a depth of from 60 to 90 feet, the thermometer indicates everywhere and at all seasons the same temperature. Below this depth it has been found that a rise of 1° Fahr. takes place for every 50 or 55 feet of descent. Calculating at this rate of increase, a temperature of 2400° would be reached at a depth of 25 miles—a degree of heat sufficient to melt such rocks as basalt, greenstone, and granite. At a depth of 36 miles the temperature would be 3272°, or sufficient to melt iron; and at 54 miles' depth, a heat of 4892° would prevail—a temperature at which all known substances would pass into the liquid form. The phenomena of volcanoes, earthquakes, and hot springs, afford other and independent evidence of the intense heat prevailing in the interior of our planet.

members—viz., gneiss, mica-slate, clay-slate, hornblende-slate, talc-slate, actynolite-slate, chlorite-slate, quartz-rock, and primary limestone. Although gneiss generally occupies the lowest place in the series, these rocks do not follow any invariable order, and not unfrequently one or more of them is wanting. In some localities, as the north and west of Scotland, they occupy large areas of country, and are of great depth and utility. The materials of these strata appear to have been originally deposited from water, in the form of sediment, and to have been subsequently so altered by subterranean heat as to assume their present crystalline texture. At the time of their original formation they were probably all replete with organic remains, similar to the fossiliferous strata above them, but the intense heat proceeding from the underlying granitic rocks has destroyed every vestige of organic matter. In some cases, dark limestones, replete with shells and corals, have thus been turned into white statuary marble; and hard clays, containing vegetable or other remains, into slates called mica and hornblende schist.

Fossiliferous Strata.—These form the upper and by far the most interesting subdivision of the stratified or sedimentary rocks. By a careful study of these we derive most important information regarding the earliest stages of the existence of our planet—information nowhere else to be found. We learn, for example, that this earth had arrived at a hoary antiquity before the creation of man; that it was not then a barren, untenanted wilderness, but the happy home of innumerable races of living creatures, which once and again were swept away by great natural catastrophes, and replaced by other orders of plants and animals, higher in the scale of being than their predecessors, and more nearly approximating in beauty of form and utility to the many races, animal and vegetable, which are now placed under man's domain. This knowledge is partly derived from the lithological character and immense depth of these rocks, each of which in its turn must have been slowly deposited by the waters of a sea, lake, or river; but principally from the countless petrified remains of the animals and plants that had their abode in the waters or on the land at the period of their formation. The branch of geology which treats of these organic remains is termed *Palæontology*. For a careful abstract of the fossils which characterise each distinct division of the fossiliferous strata, see the author's 'Manual of Modern Geography,' pp. 42-53.

BOTANY.—Botanical Geography treats of the existing number of plants on the earth's surface, the various modes by which they have been disseminated, the external causes which affect their distribution, and the more or less limited areas to which the different species and families are confined.

Number of Plants.—The number of species of plants known to botanists, as at present inhabiting the earth, considerably exceeds 100,000; but fresh accessions are daily made to this number, as new regions of the surface are explored, and our knowledge of other regions increased. Pliny, the Roman naturalist, who lived in the first century of our era, knew only 1000 species; the botanists of the middle ages describe about 1400; Linnæus, the great Swedish botanist, swelled the number, in 1762, to 8800; Willdenow, the German naturalist, in 1807, described 20,000; Robert Brown, a Scotchman, who has been justly termed "the Prince of Botanists," counted above 37,000 flowering plants; the illustrious Humboldt, by including the non-flowering orders, raised the number to 44,000; in 1844, Steudal estimated the number at 95,000; while at the present

moment the number of recognised species does not fall short of 120,000. The total number of *existing* species on the earth's surface does not probably fall short of 200,000.

Dissemination of Plants.—Many plants are possessed of means by which they can spread themselves over areas more or less extensive. Some have seeds with winged or feathery appendages, which enable them to float on the air; others have seeds so small as to be borne by winds to very distant localities; others are transported by rivers, streams, marine currents, and even icebergs, to very remote regions, where, if the soil and climate be suitable, they take root and propagate their species; while not a few adhere to the hairy coatings of migratory animals, or, entering into the gizzards of birds of passage, retain their vitality after being voided by them in distant localities. The agency of man has also, in all ages, been very effectual in the dissemination of plants; for example, the passage of armies from one country to another, commerce by sea with foreign nations, and the planting of colonies in distant regions.

Areas of Distribution.—All the agencies above enumerated, however, singly or combined, cannot adequately account for the actual distribution of the existing flora of the globe, without supposing a multiplicity of original *specific centres*, each of which was the birthplace of one species or assemblage of species, which continues to grow there in greater perfection than in any other locality. The particular region in which any given plant prevails is termed its *habitat* or *area of distribution*. In or near the centre of this area it attains its highest development; when far removed from this centre it degenerates; and when transported beyond the limits of the area it languishes and dies. The areas of distribution are of all sizes, embracing in some cases a large section of a continent, while in others it is limited to the merest speck of land. The same species of plant seldom occurs in widely separated countries, however closely the soil and climate of both may approximate; but similar species of the same genus—and hence termed *representative species*—are, in such circumstances, rarely absent. Thus the heaths of Europe are in South Africa represented by other species of the genus *Erica*, and the violets of North America represent those of Britain, though specifically different.

Botanical Regions.—Various attempts have been made by botanists to divide the globe into certain well-defined *regions*, according to their characteristic vegetation. None of these can be regarded as satisfactory, though that of Schouw, the Danish botanist, probably deserves the preference. That naturalist divides the surface of the globe into twenty-five "*phyto-geographical*" or botanical regions, each of which has a vegetation more or less peculiar to itself. (For further particulars regarding these regions, see the author's '*Manual of Modern Geography*,' pp. 55, 56.)

ZOOLOGY.—Zoological Geography treats of the number, habitats, and distribution of animals, as they presently exist on the globe, and is therefore closely allied to Botanical Geography.

Number of Animals.—The great Swiss naturalist, Agassiz, estimated, some years ago, the total number of known animals, including insects, at 250,000 species; but the barriers in the way of obtaining accurate statistics are far greater than in the case of plants. This will appear evident when we consider that, whilst the habitats of plants, when once discovered, can be visited and revisited at pleasure, the great majority of animals are endowed with the powers of locomotion, and

evade the pursuit of man; that myriads of species are too minute to be seen by the naked eye, while others are too fleet or too formidable for being accurately observed; that age and sex produce such changes in their appearance as often to render it doubtful whether or not the species are identical; that many of them have their home in the depths of the ocean, or conceal themselves in the sand on the sea-shore, while others seek shelter in the impenetrable recesses of the forest, or in inaccessible mountain-cliffs. Hence naturalists vary greatly in their estimates, not only of the probable number of existing species, but also of those that are known and described. Thus, the 'Physical Atlas,' published in 1856, gives the number of known species of vertebrated animals at 16,587 (including 1704 mammals, 6226 birds, 657 reptiles, and 8000 fishes), while Wagner and Waterhouse, in 1848, gave the number at 19,567; and the other divisions of the animal kingdom are still more uncertain. Omitting, however, from our reckoning the insects and infusoria, of the actual number of which we can as yet form no probable estimate, the following may be taken as a tolerable approximation to the existing number of animals—viz., *Vertebrated Animals*, or those possessed of a back-bone, 20,000; *Mollusca*, or shell-fish, 20,000; *Radiated Animals*, 5000; *Articulated Animals*, 5000. The sum of these is 50,000 species, to which we may safely add 200,000 for insects, and then we shall have a grand total of 250,000 *known* species of animals, while the probable number of *existing* species is probably twice as numerous as that of plants.

Distribution of Animals.—Though animals are endowed with the power of voluntary motion, and are therefore more capable than plants of transporting themselves from one region to another, various causes combine to limit the actual extension of individual species. Among the foremost of these are difference of climate and the greater or less facility of procuring subsistence; while, in regard to land animals, arms of the sea and elevated mountain-chains present formidable barriers to emigration. In numerous instances, however, we can trace their present distribution to no immediate cause, and little can be advanced beyond conjecture as to the way and manner in which a large portion of the species came to be located in the precise regions where they are met with, unless, as in the case of plants, we acquiesce in the doctrine of numerous *centres of creation*. In no other way can we solve the question, how quadrupeds, for example, incapable of crossing arms of the sea, have found their way to islands situated in mid-ocean? more especially if, as in the case of the kangaroos of Australia, there is no other known region of the globe where such animals are now to be found. In localities widely remote from each other, but having a similar climate, the species, instead of being identical, are only *representative*, as in the case of the vegetable kingdom. Naturalists divide the globe into *six zoological kingdoms* (the limits of which respectively correspond with those of the six continents), and these are subdivided into *fourteen zoological provinces*.

ETHNOGRAPHY.—Man, from the perfection and beauty of his bodily organisation, and from the order of time in which he was called into being, occupies the summit of the vast pyramid of animal life, while, by possessing an immortal spirit, full of emotion and thought, he is raised immeasurably above all material things. His superior intelligence and the pliancy of his constitution fit him to become the denizen of all countries, and all varieties of climate, from the scorching heat of the tropics to the rigorous cold of Arctic

latitudes. His geographical distribution, accordingly, differs from that of all the lower animals, though, in common with them, he is to some extent subject to the influence of external circumstances.

Unity of the Species.—Man is of only one species, and the so-called *races* of men are mere varieties of the same species, differing less from each other than do the varieties of many other animals, as the dog, horse, sheep, and domestic fowl. Science and Revelation alike proclaim this fundamental truth: the one by establishing an identity of anatomical structure between the races, the same period of gestation, the same instincts, longevity, and diseases, the same mental and moral character, and the fertility of offspring arising from intermixture of blood; and the other, by declaring that in one man was the germ of the whole human family—that the myriads of men that now people the earth are all *brethren*, united together by the closest ties—and that the universal depravity and death, which have their root in the common ancestor of all, are more than counterbalanced by the obedience and sufferings of his glorious Descendant, whom every human being can claim as his near kinsman.

Origin of Races.—Notwithstanding this identity of origin, we find that, from the earliest dawn of history, mankind has been divided into races and organised into nations; and it is one of the first lessons of Revelation that with this division human design had nothing to do,—that it was exclusively the work of the Creator, with nature to aid in its accomplishment,—and that these races and nations were distributed over the earth's surface according to a definite plan, in which each had assigned to it its proper part in future history. Each region, moreover, strengthened and modified the character of the race that was conducted into it; and thus national characteristics, which became more and more marked as generations succeeded each other, attained at length such a degree of fixedness and inflexibility as to enable them to traverse the ages of history, and encounter the most opposite influences, without undergoing any radical changes.

Number and Characteristics of Races.—Modern ethnography classifies the numerous nations that people the Old World into three primary races—viz., the *Caucasian*, or white and bearded race; the *Mongolian*, or tawny and beardless race; and the *Negro*, or black-skinned and woolly-haired race. These three races correspond, with certain limitations, to the three continents known to antiquity. Thus, the Caucasians occupy nearly all Europe, South-Western Asia, and the north of Africa, extending from the Atlantic to the Ganges, and from the Arctic Circle to the Tropic of Cancer; the Mongolians people all the rest of Asia, together with certain isolated localities in Northern and Central Europe; and the Negroes the centre and south of Africa. In addition to these, and probably arising from their intermixture and modifications, are other four minor varieties, peopling Oceania and the New World—viz., the *American Indians*, or aboriginal inhabitants of North and South America; the *Malays*, in Madagascar, Malaysia, and Polynesia; the *Papuan*s, or Oceanic negroes, inhabiting Australia, New Guinea, New Hebrides, and the Feejee Islands; and the *Maories* of New Zealand. Of these, the Caucasian race numbers about 500,000,000; the Mongolian, about 490,000,000; the Negro, including the Papuan variety, about 100,000,000; the Malay, about 60,000,000; and the American, about 16,000,000.

Population of the Globe.—The population of the entire globe cannot, as yet, be stated with anything like accuracy, as many regions still remain unexplored, and as, beyond the limits of Europe, correct census of the population are almost wholly unknown. According, however, to the most recent estimates, it amounts to 1215 millions, that of the different continents being as follows:—

Continents.	Area in English Square Miles.	Population by latest Estimates.
Europe,.....	3,812,000	340,000,000
Asia,	16,626,000	784,728,000
Africa,	12,000,000	188,000,000
North America,	8,335,147	56,998,000
South America,	7,028,000	27,170,000
Oceania,.....	4,500,000	30,000,000
Total,	54,301,147	1,426,896,000

Religions of Mankind.—The following estimate has been made of the numbers professing each of the principal religions now existing; but they can be viewed as only a rough approximation to the truth:—

Roman Catholics,	175,000,000	} Christians,.....	415,000,000
Protestants,	120,000,000		
Greek Church,.....	90,000,000		
Minor Christian Sects,...	30,000,000		
Jews,.....	7,000,000	Jews,.....	7,000,000
Mohammedans,	150,000,000	Mohammedans,	150,000,000
Brahmins,.....	250,000,000	} Heathens,.....	790,000,000
Buddhists,	390,000,000		
Other Pagans,	150,000,000		
Not accounted for,			64,000,000

Population of the Globe,.....1,426,000,000

POLITICAL GEOGRAPHY.

EUROPE.

Boundaries.—North, the Arctic Ocean; West, the Atlantic; South, Strait of Gibraltar, Mediterranean Sea, Sea of Marmora, Black Sea, and Mount Caucasus; East, the Caspian Sea, river Ural, and Ural Mountains. Lat. $36^{\circ} 2'$ — $71^{\circ} 10' N.$; lon. $9^{\circ} 32' W.$ — $68^{\circ} E.$

Continental Europe embraces 35 degrees of latitude, and more than twice as many of longitude; and, with the exception of Lapland and part of the government of Archangel, it is wholly confined to the North Temperate Zone. But, including the islands, Europe extends from lat. $34^{\circ} 55'$ (Candia) to $80^{\circ} 48' N.$ (Spitzbergen), and from lon. $31^{\circ} 16' W.$ (Azores) to $68^{\circ} E.$ (river Kara). Minsk, in West Russia, near the centre of the continent, is on the same parallel of latitude as Dublin, Liverpool, Hamburg, Irkutsk, and Lake Winnipeg; and on the same meridian as Cape Nordkyn, Constantinople, and Algoa Bay. The extreme length, from Cape St Vincent to Orsk in the Ural Mountains, is 3400 miles; and the greatest breadth, from North Cape to Cape Matapan, 2450 miles. The form is extremely irregular, consisting of an immense peninsula jutting out from Western Asia, and broken up into a series of smaller ones, nearly all of which project from the main body in a southerly direction, with mountain-chains traversing their entire length. Cape Nordkyn, in Norway, is the most northern point of the continent; Tarifa Point, near Gibraltar, the most southern; Cape Roca, in Portugal, the most western; and the mouth of the river Kara the most eastern. The coast-line is estimated at 17,000 miles, or one mile of seaboard to each 225 square miles—a ratio to which none of the other continents approaches, but one which has contributed more than perhaps any other circumstance towards the advancement of European civilisation.

Area and Population.—Europe is the smallest of the six great divisions of the globe, if to Australia be added all the islands of Oceania. Including its islands, the area is estimated at 3,812,000 square miles, being one-third the size of Africa, and one-fourteenth of the land surface of the globe. According to the latest census of its various states, as exhibited in the annexed table, the population amounts to 339,471,000 or nearly a fourth of the population of the entire globe. It is by far the most densely peopled of all the continents, there being 89 persons to each square mile.

Political Divisions.—The number of independent states recently existing in Europe was seventy, thirty of which belonged to Western Germany, and twenty-five to Switzerland. But if we reckon Norway and Sweden as one state, and Switzerland and Western Germany as one each, the total number of states is only sixteen. The following table, carefully prepared from the Gotha Almanac for 1872, exhibits the area and population of the different states according to the latest returns.

TABLE OF EUROPEAN STATES.

Name and Position.	Area in English Square Miles.	Population at last Census.	Capital.	River, &c., on which the Capital stands.	Year.
United Kingdom, W. of Central Europe,	122,550	31,817,108	London	Thames	1871
Portugal, in extreme S.W. of Continent,	36,510	3,987,867	Lisbon	Tagus	1865
Spain, E. of Portugal,	182,758	16,541,980	Madrid	Manzanares	1867
France, N.E. of Spain,	204,920	36,612,064	Paris	Seine	1871
Belgium, N. of France,	11,408	5,021,336	Brussels	Senne	1869
Netherlands, N. of Belgium,	13,631	3,858,055	Amsterdam	Amstel	1869
Denmark, N.E. of Netherlands,	14,733	1,784,741	Copenhagen	The Sound	1870
German Empire, S. of Denmark,	(212,091	40,111,265)	Berlin	Spree	1871
Prussia, E. of Belgium,	137,066	24,106,847	Berlin	Spree	1867
Minor German States, S. Prussia,	75,025	16,004,418	Munich, &c.	Isar	1867
Austria, S. of German Empire,	240,238	35,904,435	Vienna	Danube	1869
Switzerland, W. of Austria,	15,261	2,669,095	Bern	Aar	1870
Kingdom of Italy, S.E. of France,	114,445	26,258,339	Rome	Tiber	1870
Greece, S.E. of Italy,	20,152	1,457,894	Athens	G. of Egina	1871
Turkey, N. of Greece,	207,500	16,342,000	Constantinople	Bosporus	1845
Russia, N.E. of Turkey,	2,110,317	71,195,394	St Petersburg	Neva	1867
Sweden, N.W. of Russia,	170,629	4,168,882	Stockholm	L. Mälar	1870
Norway, W. of Sweden,	123,291	1,729,691	Christiania	Christa. Fiord	1868
Total of Europe,	3,812,000	339,471,009			

Peninsulas and Isthmuses.—The Scandinavian peninsula, between the Baltic and Atlantic; the Danish, between the Baltic and North Sea; Brittany, between the English Channel and Bay of Biscay; the Spanish, between the Atlantic and Mediterranean; the Italian, between the Adriatic and Tyrrhenian Sea; the Hellenic, between the Adriatic and Black Sea; the Morea, between the Ionian and Ægean Seas; the Crimea, in the N. of Black Sea. Isthmus of Corinth, connecting the Morea with Northern Greece; Isthmus of Perekop, connecting the Crimea with the mainland of Russia.

Capes.—Owing to its numerous indentations the capes and headlands of Europe are very numerous. The following are the principal:—

In the Arctic Ocean: Nordkyn, in Finmark; North Cape, in I. Mageröe; Nord, N.W. of Iceland. *In the Baltic:* The Naze, S. of Norway; Skaw, N. of Denmark; Hango Head, S.W. of Finland. *In North Sea and Atlantic:* Duncansby Head, and Cape Wrath, N. of Scotland; Malin Head, in the N., and Cape Cleaf, in the S., of Ireland; Land's-End, S.W. of England; La Hague and Raz Point, N.W. of France; Ortegal and Finis-terre, N.W. of Spain; Roca, in the W., and St Vincent, in the S.W., of Portugal. *In the Mediterranean:* Tarifa Point, S. of Spain; Gata, Palos, St Martin, and Creux, E. of Spain; Teulada, S. of I. of Sardinia; S. Vito, N.W., and Passaro, S.E. of Sicily; Spartivento, Nau, Leuca, S. of Italy; Matapan, S. of Greece.

Islands.—The principal islands may in like manner be arranged in groups, according to the seas in which they are situated:—

In the Arctic Ocean: Novaia Zemlia, N.E. of Russia; Spitzbergen, midway between Novaia Zemlia and Greenland; Kolguev, at the mouth of Tcheskaja G.; Mageröe and Loffoden Isles, N.W. of Norway. *In the Atlantic:* Iceland, between Norway and Greenland; Faröe Isles, S.E. of Iceland; British Isles, between the Atlantic and North Sea (principal, Great Britain, Ireland, Anglesea, Isle of Man, Hebrides or Western Isles, Orkney Isles, Shetland Isles, Isle of Wight, Scilly Isles); Azores, 800 miles W. of Portugal. *In the Baltic:* Zealand, Fühnen, and Bornholm, between Denmark and Sweden; Gothland and Oeland, S.E. of Sweden; Rügen, N.W. of Prussia; Aland Isles, at the entrance of the G. of Bothnia; Oesel and Dago, at the mouth of the G. of Riga. *In the Mediterranean:* The Balearic Isles, E. of Spain; Sardinia, Corsica, and Elba, W. of Italy; Sicily, Lipari, and Malta, S. of Italy; Ionian Isles, W. of Greece; Eubœa and the Cyclades, E. of Greece; Candia, S.E. of Greece.

Seas and Gulfs.—No other continent admits so many inlets of the ocean. The principal seas and arms of the sea are the following:—

The White Sea, an inlet of the Arctic Ocean, in the N. of Russia; area, 45,000 square miles; main branches, the Gulfs of Kandalak, Omega, and Archhangel; *Varanger Fiord*, N.E. of Finmark; *West Fiord*, between Norway and the Loffoden Isles. *The Baltic*, a large inland sea between Russia and Sweden; area, 135,000 square miles; main branches, Gulfs of Bothnia, Finland, Riga, and Dantzic. *The North Sea*, between Great Britain and the Continent; area, 244,000 square miles; communicates with the Baltic by the Skager Rack and Cattegat. *The Irish*

Sea, between Great Britain and Ireland; branches, North Channel, St George's Channel, and Bristol Channel. *The English Channel*, between England and France. *Bay of Biscay*, between Spain and Brittany, noted for its heavy seas and dangerous navigation. *The Mediterranean Sea*, between Europe and Africa, 2300 miles long; area, 867,000 square miles; principal branches, Gulfs of Lions and Genoa, Tyrrhenian Sea, Adriatic, Ionian Sea, *Ægean Sea* or Archipelago, and Sea of Marmora. *The Black Sea*, between Russia and Asiatic Turkey; area, 181,000 square miles; branch, the Sea of Azov. *The Caspian Sea*, S.E. of Russia; area, 140,000 square miles; surface, 81½ feet below that of the Black Sea.

Straits.—The Sound, between Sweden and Zealand; Great Belt, between Zealand and Fühnen; Little Belt, between Fühnen and Denmark; Pentland Firth, between Scotland and Orkney; Strait of Dover, between England and France; Strait of Gibraltar, between Spain and Africa; Strait of Bonifacio, between Corsica and Sardinia; Strait of Messina, between Italy and Sicily; Strait of Otranto, between Italy and Turkey; Dardanelles or Hellespont, uniting the Archipelago with Sea of Marmora; Bosphorus or Strait of Constantinople, uniting the Sea of Marmora with the Black Sea; Strait of Yenikaleh, between the Black Sea and Sea of Azov.

Surface and Mountains.—About two-thirds of the surface of Europe consist of an immense plain, which occupies the eastern and central parts of the continent, from the Ural Mountains and the Caspian on the east, to Scandinavia and the Carpathian Mountains on the west, and extending in the opposite direction from Mount Caucasus and the Black Sea to the Arctic Ocean. In the centre of Europe this immense plain stretches westward, between the Baltic and the mountains of Germany, till it terminates on the coasts of the North Sea. In the whole of this extensive region there are no mountains, or even hills, with the exception of the Valdai Hills, in the government of Novgorod, which attain an elevation of 1100 feet, and form the water-parting between the basins of the Baltic, the Black Sea, and the Caspian. The whole south-west portion of the continent, from the Carpathians to the Atlantic, is highly mountainous, as is also Scandinavia, in the north-west angle. Omitting the Valdai Hills, the mountains of Europe are grouped into seven distinct systems, two of which (the Urals and Mount Caucasus) form the boundary between this continent and Asia.

The British System, comprising all the mountains in the British and Farøe Isles, is of very moderate elevation, Ben Nevis, its highest summit, being only 4408 feet high. It nowhere attains the height of the snow-line, though many of the mountains of Scotland are partially covered with snow for the greater part of the year. The system embraces several distinct ranges, the highest of which traverses the largest island in the direction of its greatest length.

The Hesperian System, embracing the various mountain-chains in the Spanish Peninsula (which contains in its interior an elevated plateau of great extent), attains its highest elevation in Cerro Mulhacen, near the south coast (11,663 feet), and in several of the chains towers far above the snow-line, which in the Pyrenees has a height of 8000 feet.

The Sardo-Corsican System is confined to the islands Corsica and Sardinia. Monte Rotondo, in Corsica, 9068 feet high, is its highest summit.

The Alpine System, in Southern Europe, embraces all the ranges that radiate from the Alps of Switzerland, including—(1.) The Alps proper, a huge crescent-shaped range, extending from Nice to Vienna, a distance of 600 miles; Mont Blanc, in Savoy, 15,744 feet, the culminating point of Europe; Mont Rosa, in south of Switzerland, 15,208 feet; and many others, ranging in height from 10,000 to 15,000 feet; height of snow-line, 8900 feet. (2.) The Mountains of France, connected with the Alps proper by the Jura chain, 6588 feet, and comprising the Vosges, Cevennes, and mountains of Auvergne. (3.) The Apennines, extending through the entire length of Italy and Sicily; highest summit, Mount *Ætna*, in Sicily, 10,874 feet; height of snow-line in Sicily, 9500 feet. (4.) The Slavo-Hellenic Mountains, in the Hellenic peninsula, south of the Danube and Save; culminating point, Mount Olympus, in Thessaly, 9749 feet; snow-line on Mount Olympus, 9000 feet. (5.) The Carpathian Mountains, including all the mountains between the Danube, Dniester, Vistula, and Rhine; highest summit, Mount Botschetje, in Transylvania, 9528 feet; height of snow-line in the Carpathians, 6000 feet.

The Scandinavian System, in Norway and Sweden, extends from the Naze to the North Cape, or about 1150 miles, and consists of three principal ranges—viz., Langefeld, in the south, containing Skageslœstinden, the culminating point of the system, 8670 feet; Dovrefield, in the centre, 7620 feet; and Kiølen, in the north, 6200 feet; height of snow-line in the S., 5000 feet.

The Uralian System, between Russia and Siberia, forms the watershed between the basins of the Volga and Obi: total length, from Orenburg to the Arctic Ocean, 1300 miles. Its average elevation does not exceed 2000 feet; but Konjak-Ofski, the culminating point (lat. $59^{\circ} 45'$), rises to a height of 5397 feet.

The Caucasian System, extending from the Black Sea to the Caspian (700 miles), and forming the south-eastern boundary of European Russia; mean elevation, 8500 feet; Mount Elburz, the culminating point of the system, 18,493 feet, being 2749 feet higher than Mont Blanc; height of snow-line, 11,000 feet; limit of the cereals, 7000 feet.

Volcanoes.—The principal volcanoes of Europe are—Mount Vesuvius, near Naples, the only active volcano on the continent, all the others being situated on islands; Mount *Ætna*, in Sicily; Stromboli, Vulcano, and Vulcanello, in the Lipari Isles; Mount Hecia, and several others, in Iceland; and Sarytcheff, in Novaia Zemlia. The Azores are all of volcanic origin, and contain many recently extinct volcanoes, as also many of the Cyclades and the N.W. portion of the island Sardinia. Extinct volcanoes also abound in various parts of the interior of the continent, as in the mountains of Auvergne, the Eastern Pyrenees, the Eifel, Westerwald, and Vogelsberg. The earthquake district of Europe extends from the Caspian to the Azores, the central line of concussion being more or less parallel to the Pyrenees, Alps, Carpathians, and Mount Caucasus.

River-Basins and Capitals.—All the rivers of Europe belong to one or other of seven great basins—the Arctic and Atlan-

tic Oceans, the Baltic, North, Mediterranean, Black, and Caspian Seas.

The elevated ridge which separates one river-basin from another is called the *watershed* or *water-parting*; while that which divides the seven basins into two main divisions is called the *Great Watershed*. Commencing at the S.W. extremity of the continent, the latter pursues a general N.E. direction till it arrives at the northern termination of the Ural Mountains, thus cutting the continent diagonally into two great sections, which incline respectively to the N.W. and S.E. By glancing at a map of Europe, it will be seen that all the great rivers follow one or other of these two directions—those on the N.W. side of the great watershed being numerous and comparatively small, while those on the S.E. side are few and of great magnitude. By far the largest river-basins belonging to this continent are those of the Volga and Danube, which together occupy about one-fifth of the entire surface. The following table exhibits the extreme lengths of all the principal rivers of Europe, the direction of their slopes, the areas of their basins, and the capitals of states and provinces embraced by the latter. The capitals of independent states are distinguished by SMALL CAPITALS, those of provinces by Roman letters; and when the name of the state is different from that of its capital, the former is added within parentheses.

THE RIVER-BASINS OF EUROPE.

Name of River or Estuary.	Total Lengths in Eng. Miles.	Area of Basin in Geograph. Sq. Miles.	Capitals of States and Provinces.
<i>Basins inclined to the Arctic Ocean.</i>			
Petchora, . . .	900	48,800	No capitals.
Mezen, . . .	400	30,580	No capitals.
Dwina, . . .	700	106,400	Archangel, Vologda.
Onega, . . .	300	20,000	
<i>Basins inclined to the Baltic.</i>			
Gotha, . . .	400	..	Gothenburg (Gothland).
L. Mälar . . .	170	..	STOCKHOLM (Sweden).
Neva, . . .	625	67,200	Helsingfors (Finland), Revel (Esthonia), Pskov, St PETERSBURG (Russia), Novgorod, Petrozavodsk (Olonetz).
Düna, . . .	400	33,440	Riga (Livonia), Vitebsk.
Niemen . . .	400	32,180	Grodno, Suwalki (Augustowo), Wilna.
Pregel, . . .	120	5,920	Königsberg (Prussia Proper).
Vistula, . . .	530	56,640	Plock, Warsaw (Poland), Lemberg (Galicia), Radom, Lublin.
Oder, . . .	445	39,140	Stettin (Pomerania), Breslau (Prussian Silesia), Posen (Prussian Poland), Troppau (Austrian Silesia).
<i>Basins inclined to the North Sea.</i>			
Elbe, . . .	550	41,860	Gluckstadt (Holstein), HAMBURG, Magdeburg (Prussian Saxony), DESSAU (Anhalt-Dessau-Kothen), DRESDEN (Saxony), NEU-STRELITZ (Mecklenburg-Strelitz), BERLIN (Prussia), BERNBURG (Anhalt-Bernburg), RUDOLSTADT (Schwarzburg-Rudolstadt), GREITZ (Reuss), ALTENBURG (Saxe-Altenburg), SONDRSHAUSEN (Schwarzburg-Sonderhausen), GÖTTA

Name of River or Estuary.	Total Lengths in Eng. Miles.	Area of Basin in Geograph. Sq. Miles.	Capitals of States and Provinces.
<i>Basins inclined to the North Sea (continued).</i>			
Elbe (continued).			(Saxe-Coburg-Gotha), WEIMAR (Saxe-Weimar-Eisenach), Prague (Bohemia).
Weser, . . .	230	13,120	BREMEN, BÜCKEBURG (Lippe-Schaumburg), MEINKINGEN (Saxe-Meiningen-Hildburghausen), OLDENBURG, HANOVER, BRUNSWICK, DETMOLD (Lippe-Detmold), AROISEN (Waldeck), CASSEL (Hesse-Cassel).
Rhine, . . .	600	65,280	AMSTERDAM (Netherlands), Utrecht, Arnhem (Guelderland), Cologne (Rhenish Prussia), Wiesbaden (Nassau), CARLSRUHE (Baden), Strasbourg (1) (Alsace), VADUTZ (Liechtenstein), Nancy (Lorraine), Frankfurt, HOMBURG (Hesse-Homburg), DARMSTADT (Hesse - Darmstadt), STUTTGART (Württemberg), BERN (2) (Switzerland).
Meuse, . . .	580	..	Bols-le-duc (N. Brabant), Maestricht (Dutch-Limburg), Liege, Namur, Arlon (Belgian Luxembourg).
Scheldt, . . .	210	..	Middelburg (Zealand), Antwerp, Bruges (W. Flanders), Ghent (E. Flanders), BRUSSELS (Belgium), Hasselt (Belgian Limburg), Lille (French Flanders), Arras (Artois), Mons (Hainault).
<i>Basins inclined to the Atlantic.</i>			
Seine, . . .	414	22,620	Rouen (Normandy), PARIS (France), Troyes (Champagne).
Loire, . . .	530	33,940	Angers (Anjou), Tours (Touraine), Orleans (Orleanais), Nevers (Nivernais), Le Mans (Maine), Limoges (Limousin), Gueret (La Marche), Poitiers (Poitou), Bourges (Berry), Moulins (Bourbonnais), Clermont (Auvergne).
Garonne, . . .	300	24,450	Bordeaux (Guienne), Toulouse (Languedoc), Auch (Gascogne), Foix (Comté de Foix).
Douro, . . .	450	29,250	Oporto (Douro), Braganza (Tras-os-Montes), Leon, Burgos (Old Castile).
Tagus, . . .	540	21,700	LISBON (Portugal), MADRID (Spain).
Guadiana, . . .	400	19,800	Badajoz (Spanish Estremadura).
Guadalquivir, . . .	300	15,040	Seville (Andalucia), Granada.
<i>Basins inclined to the Mediterranean.</i>			
Ebro, . . .	340	23,100	Zaragoza (Aragon), Pamplona (Navarre).
Rhone, . . .	645	23,100	Avignon (Comté d'Avignon), Lyon (Lyonnais), Grenoble (Dauphiné), Besançon (Franche Comté), Dijon (Bourgogne), Chambéry (Savoy).
Po, . . .	450	29,950	Turin (Sardinia), Modena, Parma, Venice, Milan (Lombardy).

(1) For the sake of brevity the old provinces of France and Spain are those given here; but the capitals of the new divisions will be found in the corresponding tables under those countries.

(2) The capitals of the Swiss cantons will be found in the River-System of Central Europe.

Name of River or Estuary.	Total Lengths in Eng. Miles.	Area of Basin in Geograph. Sq. Miles.	Capitals of States and Provinces.
<i>Basins inclined to the Black Sea.</i>			
Danube, . . .	1795	284,000	Silistria (Bulgaria), Belgrade (Servia), Peterwardein (Military Frontier), Buda (Hungary), VIENNA (Austria), Linz (Upper Austria), Jassy (Moldavia), Bucharest (Wallachia), Agram (Croatia), Bosna-Serai (Bosnia), Laybach (Illyria), Klausenburg (Transylvania), Essek (Sclavonia), Gräts (Styria), Brünn (Moravia), Innsbrück (Tyrol), MUNICH (Bavaria), Salzburg, Temeswar (Banat and Servia).
Dniester, . . .	500	20,000	Kamienetz (Podolia), Kichinev (Bessarabia).
Dnieper and Bug,	1230	169,600	Kherson, Ekaterinoslav, Kiev, Moghilev, Smolensk, Poltava, Tchernigov, Koursk, Jitomir (Volhynia), Minak.
Don, . . .	995	168,420	Tcherkask (Don Cossacks), Stavropol, Kharkov, Voronej.
<i>Basins inclined to the Caspian.</i>			
Volga, . . .	2400	397,400	Astrakhan, Saratov, Samara, Simbirsk, Kasan, Nijni-Novgorod, Kostroma, Jaroslavl, Tver, Perm, Viatka, Penza, Riazan, Kaluga, Orel, Vladimir, Tambov, Moscow, Tula.
Ural, . . .	1800	83,200	Orenburg.

Lakes.—Lakes being for the most part mere expansions of the rivers that drain them, we shall group them together in the order of the river-basins in which they occur. Ladoga, in the N.W. of Russia, is the largest lake in Europe, having an area of 6190 square miles. Lakes are most numerous in Finland, Sweden, Italy, and Switzerland; those in the basins of the Po, Rhine, and Rhone, being unrivalled for the beauty of their scenery.

Dwina Basin: Kubinsköe, in Vologda. *Onega:* Latcha, in Olonetz. *Patajoki:* Enara, in N. of Finland. *Glommen:* Miösen, in S.E. of Norway. *Götha:* Wener, in S.W. of Sweden, 2120 square miles. *Motala:* Wetter, E. of Lake Wener. *Arboga:* Mälar, in the S.E. of Sweden. *Borgo A:* Payana, in the S. of Finland. *Neva:* Ladoga, Saima, Pielis, Kuopio, Onega, and Ilmen, in Finland and Olonetz. *Narova:* Peipus, between Livonia and St Petersburg. *Rhine:* Constance and Lucerne, in Switzerland. *Rhone:* Geneva, between Switzerland and Savoy. *Po:* Garda, Como, Maggiore, and Lugano, in N. Italy. *Danube:* Balatón and Platten See, and Neusiedl, in Hungary. *Don:* Manytch, in Caucasus, drained by the Manytch. *Volga:* Seliger, in Russia, forming the source of the Volga.

Climate.—Geographically considered, the continent of Europe is wholly embraced within the North Temperate Zone, except about one-twelfth of the surface situated within the Polar Circle; but regarding it meteorologically, or with reference to climate, and dividing the Northern Hemisphere into six climatic zones (the Equatorial, Warm, Mild, Cool, Cold, and Polar), it will be found that no part of the continent lies within either of the extreme zones.

Hence the climate, though presenting striking diversities in different places—owing mainly to elevation, direction of slope, proximity to mountain-chains, or contiguous continents—is greatly milder than the corresponding latitudes of Asia and N. America, the temperature being much warmer in winter and cooler in summer.

The winter temperature of Western Europe is greatly modified by the prevalence of westerly winds from the Atlantic, and by the high temperature of the Gulf Stream flowing northward along the shores of the continent. Southern Europe is, in like manner, affected by the proximity of Africa, the burning winds from which render its summer climate oppressive, while Northern and Eastern Europe are exposed to chilling blasts from the Polar Sea and Siberia. The limit of perennial snow at the Arctic Circle is 3500 feet above the level of the sea; in the Swiss Alps, 8900 feet; in Sicily, 9500 feet; in the Caucasus and S. of Spain, 11,000 feet. The average amount of rain over all Europe is 34 inches; but it varies greatly in the different countries, the rainiest localities being the coasts of Portugal and Norway, the Alps, Bretagne, Cornwall, S. of Ireland, and the N.W. of Scotland. The annual fall of rain decreases from S. to N., and still more from W. to E. In the Warm Zone (the Spanish Peninsula, Southern Italy, and Greece) it rains most in winter; in the Mild Zone (S. of the Alps and Carpathians), most in autumn; and in all the remainder of Europe, most in summer. The number of days on which snow falls increases from S. to N.; thus, at Malta, snow is scarcely ever seen; at Sicily, it falls, on an average, on one day annually; Paris, 12 days; Copenhagen, 30 days; and St Petersburg, 171 days.

Minerals.—Though deficient in the precious metals, Europe yields to no other continent in the abundance and utility of its mineral productions.

Gold is chiefly found in the Urals and Carpathians; silver, in Cornwall, Germany, Hungary, Norway, Bohemia, and Transylvania; copper, in the British Isles, Ural Mountains, Hungary, Styria, Norway, and the Pyrenees; tin, almost exclusively in Cornwall and Devonshire; lead, in Lanarkshire, Cornwall, Sierra Nevada, and the Eastern Alps; zinc, in the Riesengebirge; cobalt, antimony, and bismuth, in Germany; while iron is widely distributed, especially wherever coal is found, but is most abundant in Great Britain, the Cevennes, Vosges, Jura, Eastern Alps, and the Scandinavian mountains. Among *inflammable minerals*, coal is the most important: it chiefly abounds in the British Isles, Belgium, N. of France, Germany, Prussia, Austria, and S. of Russia. Sulphur is confined to volcanic regions, as Naples, Sicily, Iceland; while amber is found on the S. shores of the Baltic. Brine springs and mineral salts are also abundant: Epsom salts in England; borax, in Hungary; nitre, in Spain, Italy Hungary, &c.; and alum, in Sweden, Norway, Britain, Sicily, Lipari, and the Azores.

Botany.—The vegetation of Europe largely partakes of the same features as that of Central Asia and Northern Africa, and does not probably embrace a single indigenous plant that is not also found in one or other of those continents. Naturalists divide the entire globe into twenty-five botanical regions—each region being characterised by numerous plants more or less peculiar to itself—and three of these are partially embraced within the limits of Europe.

The first, named the *Arctic Region*, embraces the small portion of the continent situated within the Polar Circle, as also the higher elevations of the lofty mountain-ranges of the continent, between the snow-line and the limit of trees. The main features of this region are its profusion of lichens, mosses, and saxifrages; the entire absence of trees, though certain shrubs are not wanting, and perennial herbs with large flowers are also abundant; but annual plants are rare, and tropical families entirely wanting. The mean annual temperature is extremely low, and cultivation is of course impracticable.

The second, or *North European Region*, embraces the wide space between the

Arctic Circle and lat. 45°, or all Europe N. of the Pyrenees, Alps, and Black Sea, except the portion included in the first region. It is characterised by the presence of several natural orders of plants not found in the Arctic region; by numerous forests, the predominant trees being of the cone-bearing and catkin-bearing families, most of the latter losing their foliage in winter; and by the luxuriance of the pastures.

The third, or *Mediterranean Region*, embraces all the remainder of Europe, together with Asia Minor, Syria, Africa N. of the Sahara, the Azores, and Canaries. Here the winter is very mild, and several tropical plants, as palms, terebinths, and laurels, make their appearance; evergreen trees are much more numerous than in the preceding region; while the pastures, though less luxuriant, contain a great number of woody plants, several species of heath, and many winter flowers; while fruit-trees, including the vine, fig, almond, pomegranate, olive, lemon, orange, peach, apricot, citrou, stone-pine, and date-palm, are abundant.

Seven species of cereals or grain-plants are cultivated in Europe—viz., barley, rye, oats, wheat, millet, maize, and rice—the zones of climate in which they occur merging into each other like the seven colours of the rainbow. No species of grain can be brought to maturity in Iceland; but barley is cultivated in the Farøe Isles, and on the continent as far N. as Hammerfest and the White Sea. Rye is largely cultivated in the N. of Europe. Oats are extensively grown between the lat. of Paris and 65° N. Wheat is raised from lat. 64° to the tropic of Capricorn; millet, in Bretagne, Tuscany, and a few other localities; and maize, in E. and S. Europe. Few European countries afford the requisite heat and moisture for the successful cultivation of rice; but it is grown in Spain, Greece, and Italy. The potato can be raised at a considerably higher latitude than any of the cereals, and it forms the highly-relished food of millions of the people from Iceland to Greece.

Zoology.—Naturalists divide this continent into three zoological provinces—a Northern, Central, and Southern—the limits of which harmonise pretty closely with those of the three botanical regions above described.

Of the 1779 existing MAMMALS, Europe contains 223 species. Of the eight orders into which these are divided, two are entirely absent—viz., the Marsupials, or Pouched animals, and the Edentata, or Toothless; while other two—the Quadrumana, or Four-handed, and the Pachyderms, or Thick-skinned—are each represented by a solitary species—viz., the Barbary ape, found on the rock of Gibraltar, and the wild boar, in the forests of Central Europe. Of the remaining orders, that of the Carnivora, or Flesh-eating, is by far the most important, embracing no fewer than 119 European species. The lion and tiger are no longer found, but the order is represented by the lynx, wolf, polecat, badger, and bat. The Rodenta, or Gnawing animals, are in like manner represented by the squirrel, beaver, rat, porcupine, and hare. The Ruminants, or Cud-chewing animals, embrace the camel, deer, antelope, sheep, and buffalo. Lastly, the Cetacea, or Ocean-living order, includes the Greenland whale, porpoise, and common grampus. The Birds of Europe amount to 490 species, or nearly a twelfth of the total number known to science, and comprise numerous representatives of the six orders into which this class is divided. The REPTILES are 73 in number, being one-ninth of the total number of species. They are all of insignificant size, and embrace very few serpents.

Ethnography.—The people of Europe belong to two great races—the Caucasian and the Mongolian. The former derives its name from the region of the Caucasus, the grand centre from which the Japhetic nations appear to have immediately sprung; and the latter from Mongolia, in Central Asia—the teeming source from which, at a comparatively recent period, innumerable hordes of nomadic barbarians penetrated into Eastern and Central Europe. The Caucasian race now extends, with few interruptions, from the Atlantic to the Ganges and Brahmapootra, and from the Arctic Circle to the Tropic of Cancer—thus embracing the larger portion of Europe,

the north of Africa, and the south-west of Asia. The principal Mongolian tribes located in Europe are the Finns, Lapps, and Samoides, extending from the Gulf of Bothnia to the river Kara; the Magyars, in Hungary, closely allied to the Finns in language and physical aspect; the Tartars, inhabiting the region north of the Black Sea and river Kuban; the Calmucks, north of Mount Caucasus; and the Turks, in Rumelia, who form a connecting link between the Mongolian and Caucasian races.

LANGUAGES.—All the languages presently spoken in Europe belong, in like manner, to two great families—the Indo-European, or Japhetic, and the Finno-Tartarian. Nations belonging to the Caucasian race speak the former, those of Mongolian origin the latter. The Indo-European tongues spoken in Europe are divided into four groups—viz., the Celtic, in the west; the Teutonic, in the north and north-west; the Slavonic, in the centre and east; and the Greco-Latin, in the south. All these, together with the Indian and Medo-Persic groups in Asia, are descended from, or at least intimately allied to, the now extinct Sanscrit—an ancient, copious, and highly-refined language, spoken at a very remote period by a Japhetic nation who, proceeding, as is supposed, from Persia, invaded Northern India, driving its former inhabitants southward, or to the mountain fastnesses of the interior. The probability is that this Sanscrit-speaking people was a branch of the same stock as the Celts, Teutones, Slaves, and Hellenes, who, anterior to the dawn of history, migrated into Europe in separate bodies and at diverse times, thus originating the four groups of languages above enumerated.—(See the Author's 'Manual of Modern Geography,' pp. 91-98.)

RELIGIONS.—The religions of Europe, though numerous and varied, may all be reduced to three classes, curiously corresponding with the great races of men and groups of languages above described. Thus, nations of Caucasian origin are, in general, Christians; those of Mongolian race are nearly all heathens; while the Turks, who form a connecting link between these races, profess Mohammedanism—a religion lying midway between Christianity and Paganism. Again, we find that nations speaking Teutonic tongues have embraced Protestantism; those of the Celtic and Greco-Latin families Roman Catholicism; while those speaking Slavonic tongues belong to the Greek Church. To these generalisations, however, there are several important exceptions, for language does not strike so deeply into the soil of humanity as race does. Language shares in the fortunes of the nation that speaks it, and is therefore subject to numberless vicissitudes; whereas the stamp derived from race remains indelible for ages. Hence the inhabitants of Greece, instead of belonging to the "Catholic," are staunch adherents of the Greek Church; the Austrians, though speaking a Teutonic language, largely profess Romanism; and the Scottish Gael and Welsh, though using dialects of the Celtic, are zealous Protestants. The following is a summary of the races and religions at present existing in Europe:—

RACE.	RELIGION.
Celtic, pure and mixed . 78,040,000	Roman Catholic . . . 135,000,000
Teutonic do. . 100,800,000	Greek Church . . . 67,600,000
Slavonic do. . 70,040,000	Protestant . . . 65,500,000
Mongolian and Tartar . 28,000,000	Mohammedan & Heathen 8,400,000
Jewish 2,000,000	Jews 2,000,000
Gypsies, &c. . . . 1,220,000	Gypsies, &c. . . . 1,500,000
<hr/> Total of Europe . . 280,000,000	<hr/> 280,000,000

THE BRITISH ISLES.—GENERAL VIEW.

Position and Boundaries.—The British Isles, or United Kingdom of Great Britain and Ireland, form an extensive archipelago in the North Atlantic Ocean, at a small distance from the western shores of Central Europe, from which it is separated by the North Sea, the Strait of Dover, and the English Channel. Lat. $49^{\circ} 13'$ — $60^{\circ} 49'$ N.; lon. $1^{\circ} 45'$ E.— $10^{\circ} 32'$ W.

The archipelago consists of two large islands—Great Britain and Ireland—and of a multitude of smaller ones, which are arranged singly or in groups around the two principal. The general outline is very irregular; but omitting the Shetland, Scilly, and Channel Isles, it approaches the form of a scalene triangle, with its longest side facing the east, and its shortest the south. Unst, in Shetland, is the most northern point of the archipelago; Jersey, in the Channel Isles, the most southern; Lowestoft Ness, in Suffolk, the most eastern; and Dunmore Head, in Kerry, the most western. The longest day in Jersey is three hours shorter than in Unst, and the sun rises on the coast of Norfolk 49 minutes earlier than on that of Kerry. The parallel of 55° , which traverses the archipelago through its centre, passes over Londonderry in the extreme north of Ireland, Newcastle in the north of England, Copenhagen, Moscow, Tomsk in Siberia, and Nain in Labrador. Unst, in the extreme north of the archipelago, is on the same parallel as St Petersburg and Cape Farewell in Greenland; while Jersey, in the extreme south, has the same latitude as Paris, Vienna, and the northern boundary of the United States.

Area and Population.—The area, which is not yet precisely ascertained, is estimated at 122,550 square miles, or about one-thirtieth of the area of Europe; while, by the census of 1871, the population amounts to 31,817,108, or more than one-tenth of the population of the Continent. There are thus 259 persons in the British Isles to each square mile of surface.

In 1801 the population of Britain was 10,764,000, while that of Ireland was estimated at 5,000,000. Hence the population of the United Kingdom has barely doubled itself during the seventy years that have elapsed of this century—a result partly owing to the vast number of emigrants that annually leave our shores, and partly to the great famine in Ireland in 1846. About one-half of our population reside in cities and towns, and the other half in the country. No fewer than nineteen cities have a population exceeding 100,000, fourteen of which are in England, three in Scotland, and two in Ireland.

Climate.—As compared with other countries under the same latitude, the climate of the United Kingdom, though very variable, is remarkably mild and salubrious; while the temperature is greatly higher than that of any other country situated between the same parallels of latitude.

This result is mainly owing to two causes—viz., our insular position, and our coasts being constantly washed by a stream of heated waters from the Gulf of Mexico, which, after crossing the Atlantic, has not wholly lost its high temperature on arriving at the British Isles. The mean annual temperature of the central portions of our archipelago is 49° Fahr.—that of Unst being $44\frac{1}{2}^{\circ}$, and of Cornwall, $51\frac{1}{2}^{\circ}$. But the mean temperature of Moscow, under the same latitude, is only 40° , and of Nain, in Labrador, 28° . Our winter temperature is specially affected by the Gulf Stream; for, while our average winter temperature is about 39° , that of Moscow is 15° , and of Nain, $8\frac{1}{2}^{\circ}$. Thus two places on the same parallel of latitude, but separated by the Atlantic Ocean, differ in their winter temperatures as

less than 36°. The difference between our hottest and coldest months is also greatly less than in other countries; for, while our annual range of temperature does not exceed 24°, at Berlin it amounts to 88°, and at Moscow to 57°. Our average fall of rain is about 40 inches, but it is much greater on the western coasts of the two larger islands than on the eastern. Thus in some parts of Cumberland and Westmoreland about 100 inches of rain are annually deposited, while at Edinburgh, on the opposite coast, it is only 25, and at London, 24 inches.

Minerals.—The mineral products of the United Kingdom are a source of immense wealth; for, though the precious metals and quicksilver exist in very limited quantities, we have inexhaustible supplies of all the more useful minerals, especially coal, iron, copper, lead, tin, zinc, salt, limestone, and numerous kinds of building-stone.

The total area of the coal-measures in the United Kingdom is estimated at about 800 square miles, and it is calculated that at the present rate of consumption, which is 86 millions of tons annually, the supply will last for 930 years; but should the rate of consumption increase as it has been doing of late, the total supply, which is estimated at 80,000 millions of tons, will become exhausted in 212 years. In England the coal-fields abound chiefly in Northumberland, Durham, York, Lancashire, Staffordshire, and South Wales. In Scotland they form a broad belt across the country where it is narrowest, from the coast of Ayrshire to Fife Ness; while the six coal-districts of Ireland are situated in the great central plain, and yield a comparatively small amount of coal, of inferior quality. The total value of our mineral products for 1863 when brought into the ordinary marketable condition, was no less than £37,000,000—the coal alone amounting to £20,000,000, and the metals to £15,527,000.

Botany and Agriculture.—The British Isles are wholly embraced within the *Second Botanic Region* of naturalists, the limits and general characteristics of which have been described under “Europe.”

The British archipelago scarcely contains a single plant that is not also found in the neighbouring continent. Botanists vary considerably in their estimates of the total number of species. Probably, however, they amount to about 4400 species, 1600 of which are flowering plants. Among our native forest trees may be reckoned the oak, elm, birch, beech, ash, Scotch fir, willow, yew, and mountain-ash; while our principal fruit-bearing trees are the apple, pear, cherry, plum, peach, and walnut. The cereals comprise wheat, barley, bere, and oats; and our other cultivated plants, the potato, turnip, mangold, carrot, radish, beet, cabbage, pease, beans, hops, flax, clover, and rye-grass. British farming has attained an unparalleled degree of perfection, especially in Scotland, which surpasses England in this respect as much as Ireland comes short of it. Of the 78 millions of acres of land in the United Kingdom, it is estimated that 20 millions are under cultivation, 28 millions under pasture, 15 millions waste but improvable, and 15 millions incapable of cultivation. The total quantity of corn annually produced, after deducting seed for next year, is about 64 millions of quarters, or nearly two quarters for each inhabitant.

Zoology.—The Vertebrated Animals of the British Isles comprise about 594 species, of which 63 are mammals, 274 birds, 14 reptiles, and 243 fishes.

Deducting the cetacea and bats—the one peopling the waters, and the other the air—only 40 mammals remain, all of which inhabit the land. These are divided into four orders—viz., Carnivora, or flesh-eating animals; Rodentia, or gnawing animals; Ruminantia, or animals that chew the cud; and Pachydermata, or thick-skinned animals. The first is represented by the fox, dog, weasel, ermine, and polecat; the second, by the hare, rabbit, squirrel, rat, and mouse; the third, by the ox, deer, goat, and sheep; and the fourth, by the horse, ass, and sow. Among *Invertebrated Animals* may be enumerated 392 shell-bearing molluscs; numerous

Articulated Animals (divided into five families, which are represented respectively by the leech, lobster, barnacle, spider, and butterfly; the last family—viz., the Insects—includes upwards of 10,000 British species known to science); and, lastly, **Radiated Animals**, represented by the starfish, tape-worm, medusa, coral insect, and animalcule.

Ethnography.—The people of the British Isles belong to two varieties of the Caucasian race—the Celtic and the Gothic or Teutonic.

The Celts were the original inhabitants of the neighbouring continent, and entered our archipelago at a very remote but unknown period, forming, in all likelihood, its first inhabitants. Before arriving, however, on our shores, they appear to have become divided into two main sections—Gael and Kymri,—who were mutually hostile, and spoke widely distinct dialects of the Celtic language. The Gaels seem to have been the earliest settlers in the southern parts of Britain, but to have been speedily dislodged by the more powerful Kymri, and driven into Scotland, Ireland, the Hebrides, and Isle of Man, where they continued to employ nearly identical dialects—viz., Gaelic, Irish, and Manx. The Kymri occupied South Britain, as far north as the Grampians, and became the ancestors of the modern Welsh and Cornish. About 10,000,000 of the existing inhabitants of the British Isles are of Celtic blood, either pure or mixed; the remainder, who form the great bulk of the population, being of Teutonic origin. The first Teutonic nation that invaded our shores were the Anglo-Saxons, whose original home was that portion of Germany lying between the Eyder and the Weser, and commenced their incursions into England in the year A.D. 449. Having vanquished the Celtic tribes who then occupied the country, they drove them into the mountainous regions of Wales and Cornwall. The Danes, another Teutonic people, invaded Britain in the beginning of the eleventh century; but their dominion was of very short duration. The last invasion of our shores was that of the Normans, a Teutonic nation, who established their rule in England by the battle of Hastings (A.D. 1066), and gradually changed the Anglo-Saxon language of the population into the modern English.

LANGUAGES.—The languages at present spoken in the British Isles are seven in number—viz.: Irish, Scottish Gaelic, Manx, Welsh, English, Lowland Scotch, and French. The four first mentioned belong to the Celtic stock, and represent the most ancient language in Europe. The Irish, Gaelic, and Manx are so closely allied that they may be regarded as mere dialects of the same language; but they differ widely from the Welsh, which has a similar affinity with the Armorican of Bretagne, and the now extinct Cornish of Cornwall. The English and Lowland Scotch belong to the Teutonic group of languages—the former to its Gothic, and the latter to its Scandinavian branch. The English, though essentially a compound language, borrowing freely from all sides, has for its parent or groundwork the Anglo-Saxon; while the Scotch is descended from the Norse, a Scandinavian, and not a Gothic tongue. It is a great mistake, therefore, to regard the Scotch as a mere corruption of the English. They are equally ancient, and true to their originals; or, if there be any difference in these respects, the Scotch has the advantage. Lastly, the French is spoken in the Channel Isles, the only portion of Normandy now belonging to the English Crown.

RELIGION.—Christianity, under one or other of its forms, is professed by nearly the entire population of the British Isles, but the religious community is broken up into a great number of sects. No fewer than forty distinct denominations are found, which, however, may all be grouped into two classes—Protestants and Catholics—the former of which is about four times more numerous than the latter. Only about one-tenth of the Catholics belong to Great Britain, the great majority of them being in Ireland. The principal Protestant denominations are—the Episcopalians, Presbyterians, Independents, Baptists, and Methodists. Episcopacy is endowed by the State in England and Ireland, and Presbyterianism in Scotland; but all denominations are freely tolerated. Notwithstanding our ecclesiastical divisions, Great Britain is the centre and stronghold of religious freedom and of Bible Christianity throughout the world. Besides supporting some 30,000 Protestant clergymen at home, British Christians contribute annually upwards of £1,000,000 sterling for sending the Gospel to heathen lands.

Government and Finance.—The crown is hereditary; the form

of government a limited constitutional monarchy ; and the legislative authority vested in the Sovereign, a House of Peers, and a House of Commons, whose united concurrence is necessary for the enactment of new laws, or the repeal of those already existing. The sovereign must be a Protestant ; the House of Peers is composed of princes of the blood royal and 451 lords spiritual and temporal ; while the House of Commons consists of 658 members, 500 of whom are chosen by the electors of England and Wales, 105 by those of Ireland, and 53 by those of Scotland. The electors form about one twenty-fourth of the entire population. The House of Commons possesses the exclusive privilege of introducing money bills, and of voting money out of the revenue. In this single privilege lies the palladium of the commonwealth ; for, though the sovereign may declare war with a foreign state, and levy armies, the war cannot be prosecuted, nor the army paid, but by the consent of the representatives of the people.

The vast extent of the British Empire renders it necessary to maintain a very large naval force ; but owing to our insular position, and equitable laws, our standing army is much smaller than that of any other great European power. In 1872 our military force amounted to 196,065 men and officers (of whom 62,864 were in India), besides about 361,000 auxiliaries for home defence. The navy, in the same year, embraced 398 ships of war, carrying 5080 guns. The majority of these are propelled by steam, including 40 ships of the line, 30 frigates, and 58 iron-clad steamers. The army and navy cost the country annually about £26,000,000 sterling, of which upwards of £15,000,000 go to the army. The revenue for 1871 amounted to £69,945,220, the expenditure to £66,462,000 ; and the National Debt to £737,400,000, or upwards of £23 to each inhabitant.

Manufactures and Commerce.—Britain stands unrivalled among the nations both in the extent of her commerce and the variety of her manufactures. Several causes concur in rendering her commerce superior to that of other countries. By referring to a terrestrial globe it will be seen that her metropolis stands almost exactly in the centre of the land surface of the globe. But this favourable position would be of little avail were it not that she is surrounded by seas on all sides, and thus placed in circumstances to prosecute her commerce in all directions without encountering any physical obstacle. In addition to her insular position, she further enjoys the advantage of numerous excellent harbours, canals, roads, railways, and navigable rivers, by which her industrial products can be readily and cheaply conveyed to the seaboard. But perhaps the greatest physical advantage that Britain enjoys over other countries consists in the unrivalled extent and variety of her mineral treasures—especially those of coal and iron, which are usually found in close juxtaposition, the one affording the material of her manufacturing machinery, and the other the means by which that machinery can be wrought with advantage. Accordingly, all the great manufacturing centres of the kingdom are situated in or near the great coal-fields (see above, under “Minerals”). Our two most important manufactures are those of textile fabrics and of metallic goods. A large proportion of the population depend directly on these for support. The *woollen* manufacture, though the oldest in the kingdom,

is now second in importance to the *cotton*, of which upwards of 10 millions of cwt. are annually imported, in the form of cotton wool, then wrought up into a vast variety of fabrics, and exported to all parts of the world.

EXPORTS AND IMPORTS.—Our imports are chiefly of two classes—viz., food for our people, and raw material for our manufacturing industry. The home supply of the former is annually decreasing in proportion to the population, partly owing to deficient harvests, and partly from less land being devoted to the growth of cereals, pasture being more remunerative. Hence, during the last few years, we have been obliged to import *one-half* of the whole subsistence of the people. In 1869 alone we paid for foreign corn no less than £37,000,000. Five-eighths of this supply came from distant countries (chiefly from N. America and Russia), and three-eighths from the nearest ports of Europe. The five principal articles of import are raw cotton, corn, wool, tea, and sugar. The total value of our imports for 1869 was £295,000,000; of which £43,000,000 were from the United States, £33,500,000 from France, £16,201,000 from Russia, and £70,416,000 from our colonial possessions. Our total exports for the same year amounted to £237,000,000; of which value to the amount of £53,423,000 was sent to our colonies, £24,627,000 to the United States, £23,115,000 to the Hanseatic towns, and £11,813,000 to France. The principal articles exported were cotton, woollen, and linen goods, metallic goods, machinery, coals, and apparel.

INLAND COMMUNICATION.—In proportion to its area, the inland communication of the United Kingdom greatly exceeds that of any other country. Our turnpike roads, canals, and railways, form a perfect network of communication, which extends to the remotest parts of both the main islands. In 1871 the number of miles of railway in actual operation was 15,537, conveying about 330,000,000 of passengers annually, and drawing £45,000,000 of receipts. Our turnpike roads amount to 85,000 miles, our cross roads to 150,000 miles, our navigable canals to 2800 miles, and our river navigation, opened by artificial means, to 1800 miles. The number of letters annually transmitted through the Post-Office now approaches 900,000,000, or more than 28 letters to each individual of the population.

Foreign Possessions.—The British Empire is the largest, the most powerful, and, with one exception, the most populous on the surface of the earth. In extent of territory it even exceeds the Russian Empire; in point of population, it is second only to the Chinese; while in wealth and moral influence it has no rival. It includes a vast number of foreign and colonial possessions in every quarter of the globe, the aggregate area of which is 8,726,797 square miles, or one-sixth of the land surface of the globe; while the population is about 246,796,315, or nearly one-fifth of the human race. The various divisions of this immense empire, with their respective areas and populations, according to the latest returns, are exhibited in the following table:—

TABLE OF BRITISH POSSESSIONS.

Name.	Capital.	Area in English Square Miles.	Population at last Census.
British Isles (1871),	London	122,550	31,817,108
Heligoland (1860),		1	2,172
Gibraltar (1865),		2	24,095
Malta and Gozo (1866),	Valetta	142	146,852
Total in Europe, .....	.....	122,695	31,990,227

TABLE OF BRITISH POSSESSIONS—(Continued).

Name.	Capital.	Area in English Square Miles.	Population at last Census.
British India (1871),.....	Calcutta	963,929	151,146,616
Protected States (1871),...		646,147	46,245,888
Ceylon (1868),.....	Colombo	24,454	2,081,395
Hong-Kong (1871),.....	Victoria	32	115,444
Labuan (1867),.....		45	8,828
Aden and Perim (1870),...		20	50,000
Total in Asia,.....		1,634,627	199,643,171
Gambia (1861),.....	Bathurst	21	6,939
Sierra Leone (1869),.....	Freetown	468	55,374
Gold Coast (1858),.....	Lagos	6,000	151,346
Cape Colony (1868),.....	Cape Town	196,236	566,158
Natal and Basutu Land } (1869),.....	Pietermaritzburg	27,001	329,551
Mauritius, Amiranter, & } Seychelles,.....	Port-Louis, &c.	1,000	340,664
St Helena & Ascension,...	Jamestown, &c.	82	7,260
Total in Africa,.....		230,808	1,457,292
Dominion of Canada— } Canada, Nova Scotia, New Brunswick, Brit- } ish Columbia, & Mani- } toba—(1871),.....	Ottawa	3,481,722	4,455,000
Newfoundland (1870),.....	St John's	40,200	146,586
Prince Edward Island } (1870),.....	Charlotte Town	2,173	93,838
Bermudas (1863),.....	Hamilton	24	11,796
British Honduras (1863),...	Belize	13,500	25,635
West India Islands (1869),...	Spanish Town	12,683	942,493
British Guiana (1869),.....	George Town	76,000	155,026
Falkland Isles (1869),.....	Stanley Harbour	7,600	690
Total in America,.....		3,633,000	5,820,514
New South Wales (1871),...	Sydney	323,437	501,611
Victoria (1871),.....	Melbourne	86,831	729,868
South Australia (1871),...	Adelaide	383,328	183,995
West Australia (1871),.....	Perth	973,000	24,785
Queensland (1870),.....	Brisbane	673,000	109,897
North Australia (unco- } lonised),.....		523,531	
Tasmania (1870),.....	Hobart Town	26,215	99,328
New Zealand (1871),.....	Wellington	106,259	256,393
Auckland & Norfolk Isles,		166	338
Total in Oceania,.....		3,104,767	1,885,111
Total British Empire,.....		8,726,707	246,796,315

ENGLAND AND WALES.

Boundaries.—N., Scotland; W., the Atlantic, St George's Channel, and the Irish Sea; S., the English Channel; E., the North Sea. Lat. $49^{\circ} 58' - 55^{\circ} 47' N.$; lon. $1^{\circ} 45' E. - 5^{\circ} 43' W.$

The form is rudely triangular: the base, fronting France, 317 miles, the east side 345 miles, and the west side 425 miles; length of coast-line, including the principal indentations, above 2000 miles. London, the capital (lat. $51^{\circ} 30'$), is on the same parallel as Cork, Antwerp, Berlin, Warsaw, Orenburg, Irkutsk, and the northern extremities of Vancouver Island and Newfoundland; and on the same meridian as the Shetland Islands, Flamborough Head, Brighton, Caen, Valencia, and Oran in Algeria.

Area and Population.—The area is 58,320 square miles, or nearly one-half of the British archipelago. In 1871 the population amounted to 22,704,108, being nearly double of what it was fifty years ago. England is therefore one of the most densely-peopled countries in the world, having 389 persons to each square mile.

Political Divisions.—It is divided into fifty-two counties, twelve of which belong to Wales. The forty English counties may be arranged into seven eastern, ten southern, seven western, and sixteen midland.

EASTERN COUNTIES.

Northumberland.—Newcastle 128,* Tynemouth 38 (Tyne), Morpeth 5 (Wansbeck), Berwick 13 (Tweed).

Durham.—Durham 14, Sunderland 98 (Wear), South Shields 44, Gateshead 49 (Tyne), Stockton 28, Darlington 28 n. (Tees), Hartlepool 13 (coast).

York.—York 44 (Ouse), Hull 122 (Humber), Doncaster 19, Sheffield 240 (Don), Leeds 259, Bradford 166 n. (Aire), Wakefield 28, Dewsbury 24, Huddersfield 70 n., Halifax 65 (Calder), Scarborough 24 (coast), Whitby 12 (Esk).

Lincoln.—Lincoln 27, Boston 16 (Witham), Louth 11 (Ludd), Great Grimsby 20 (Humber).

Norfolk.—Norwich 80, Yarmouth 42 (Yare), Lynn-Regis 16 (Great Ouse).

Suffolk.—Ipswich 43 (Orwell), Bury St Edmunds 15 (Larke), Lowestoft 17 (E. coast).

Essex.—Chelmsford 6 (Chelmer), Colchester 26 (Colne).

SOUTHERN COUNTIES.

Kent.—Maidstone 26, Chatham 36, Rochester 18 (Medway), Gravesend 21, Woolwich 42, Greenwich 168 (Thames), Canterbury 21 (Stour), Dover 28 (Strait of Dover).

Sussex.—Lewes 54 (Ouse), Chichester 8 (Lavant), Hastings 29, Brighton 90 (S. coast).

Surrey.—Guildford 9 (Wye), Kingston 15 (Thames), Reigate 16 (Mole).

Berkshire or Berks.—Reading 32 (Kennet), Windsor 12 (Thames).

* The capital of the county stands first, and is followed by all the large towns situated on the same river, beginning at the mouth. The numerals after the towns denote so many thousands of inhabitants. The letter *n* is a contraction for *near*—i.e., near the river whose name follows.

Hampshire or Hants.—Winchester 15, Southampton 54 (Itchin), Portsmouth 113 (coast), Newport 8 (Isle of Wight).

Wiltshire or Wilts.—Salisbury 13 (Avon), Trowbridge 10 (Lower Avon).

Dorset.—Dorchester 7, Poole 10 (Frome), Weymouth 13 (Wey).

Somerset.—Taunton 15 (Tone) Bath 53 (Lower Avon), Bridgewater 12 (Parret).

Devon.—Exeter 37 (Ex), Plymouth 68, Devonport 50 (Plymouth Sound), Torquay 8 (Tor Bay), Barnstaple 12 (Taw).

Cornwall.—Launceston 3 (Tamar), Bodmin 5 (Camel), St Ives 7 (W. coast), Penzance 10 (S. coast), Falmouth 5, Truro 11 (Falmouth Harbour).

WESTERN COUNTIES.

Monmouth.—Monmouth 6 (Wye), Newport 27 (Usk).

Hereford.—Hereford 18 (Wye), Leominster 6 (Lugg).

Salop or Shropshire.—Shrewsbury 23, Bridgenorth 6, Much-Wenlock 19 n. (Severn).

Cheshire.—Chester 36 (Dee), Birkenhead 30, Stockport 53 (Mersey), Macclesfield 36 (Bollin).

Lancashire.—Lancaster 17 (Lune), Preston 85 (Ribble), Blackburn 76 n. (Darwen), Burnley 32 (W. Calder), Wigan 39 (Douglas), Liverpool 493, Warrington 32 (Mersey), Staley Bridge 21, Ashton-under-Lyne 32 (Tame), Manchester 356, Salford 125, Bury 38 (Irwell), Oldham 83 (Medlock), Bolton 83 (Crole), Rochdale 45 (Roche).

Westmoreland.—Appleby 3 (Eden), Kendal 13 (Ken).

Cumberland.—Carlisle 31 (Eden), Whitehaven 19 (W. coast).

MIDLAND COUNTIES.

Derby.—Derby 50, Belper 10 (Derwent), Chesterfield 11 (Rother).

Nottingham.—Nottingham 87, Newark 12 (Trent).

Stafford.—Stafford 14 (Sow), Burton 6, Newcastle-under-Lyne 16, Stoke 101 (Trent), Walsall 46, Lichfield 7 n. (Tame), Wolverhampton 68, Bilston 24 (Smestow).

Leicester.—Leicester 95, Loughborough 11 (Soar).

Rutland.—Oakham 3 (Wreak).

Worcester.—Worcester 33 (Severn), Kidderminster 19, Dudley 44 n. (Stour).

Warwick.—Warwick 11, Stratford 4 (Avon), Leamington 15, Coventry 39 (Sow), Birmingham 344 (Rea).

Northampton.—Northampton 41, Peterborough 12 (Nen).

Huntingdon.—Huntingdon 4, St Ives 7 (Great Ouse).

Cambridge.—Cambridge 30 (Cam), Ely 6 (Great Ouse).

Gloucester.—Gloucester 18 (Severn), Bristol 183 (Lower Avon), Stroud p. b. 36 (Frome), Cheltenham 45 (Chelt).

Oxford.—Oxford 32 (Thames), Woodstock 8 n. (Evenlode).

Buckingham or Bucks.—Buckingham 4 (Great Ouse), Aylesbury 27 (Thame), Eton 4 (Thames).

Bedford.—Bedford 17 (Great Ouse), Luton 10 (Lea).

Hertford or Herts.—Hertford 7 (Lea), St Albans 8 (Colne).

Middlesex.—LONDON 3,252, BRENTFORD 9 (Thames).

WALES.

Flint.—Mold 3 (Allen), Holywell 6, Flint 4 (Dee).

Denbigh.—Denbigh 6 (Clwyd), Wrexham 7 (Dee).

Caernarvon.—Caernarvon 9, Bangor 7 (Menai Strait).

Anglesea.—Beaumaris 2 (Menai Strait), Holyhead 6 (Holy Island).

Merioneth.—Dolgelly 2 (Maw).

Montgomery.—Montgomery 1, Welshpool 7 (Severn).

Cardigan.—Cardigan 4 (Teivy), Aberystwith 7 (Ystwith).

Pembroke.—Pembroke 15, Haverfordwest 7 (Milford Haven).

Caermarthen.—Caermarthen 10 (Towey), Llanelly 9 (S. coast).

Glamorgan.—Cardiff 40 (Severn), Swansea 52 (Tawy), Merthyr-Tydfil 84 (Taff), Neath 9 (Neath).

Brecknock.—Brecknock or Brecon 6 (Usk).

Radnor.—New Radnor 2 (Somergill).

Descriptive Notes.—By the census of 1871, there were in England and Wales fourteen towns of more than 100,000 of population (London, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Bristol, Greenwich, Bradford, Newcastle, Salford, Hull, Portsmouth, Stoke-upon-Trent); twenty-one between 100,000 and 50,000 (Sunderland, Leicester, Brighton, Preston, Merthyr-Tydfil, Nottingham, Oldham, Bolton, Norwich, Blackburn, Huddersfield, Plymouth, Wolverhampton, Halifax, Southampton, Lewes, Bath, Stockport, Swansea, Derby, Devonport); forty-eight between 50,000 and 20,000; and about eighty between 20,000 and 10,000.

EASTERN COUNTIES.—*Newcastle*, near the centre of the great northern coal-field, is the fifth commercial city in the kingdom. Eight coal-pits in its vicinity yield three million tons annually. *Tynemouth* and *Shields*, the seaports of Newcastle, export enormous quantities of coal to all parts of the world. *Berwick* (Ber'-ric), on the north side of the Tweed, was long independent of both kingdoms, and is famous in border warfare. *Durham*, with an ancient cathedral containing the remains of the Venerable Bede, is the seat of one of the five English universities. *Sunderland*, noted for shipbuilding and the exportation of coal. *Gateshead*, a suburb of Newcastle, on the opposite side of the Tyne. *York*, near the centre of the county, where its three divisions, called *Ridings*, converge, is, in point of ecclesiastical rank, the second city in the kingdom; its cathedral, named York Minster, is the finest structure of the kind in England. *Hull* or *Kingston-upon-Hull*, the great outlet for the manufactures of the West Riding, is the fourth commercial city in the kingdom. *Doncaster*, noted for its annual races. *Sheffield*, famous for its cutlery and plated goods, in which it is second only to Birmingham. *Leeds*, *Bradford*, *Huddersfield*, and *Halifax* are the principal seats of the woollen trade of the West Riding. *Scarborough*, noted for its mineral springs, which are highly medicinal. *Lincoln* (Link'-un) has a beautiful cathedral, with a gigantic bell named Tom of Lincoln. *Norwich* (Nor'-ich), long famous for its worsted manufactures, first introduced by Flemish Protestants in the sixteenth century. *Yarmouth*, noted for its herring-fishery, and for its roadstead or anchorage, lying between the coast and a dangerous sandbank in the vicinity. *Ipswich*, the birthplace of Cardinal Wolsey, has extensive manufactures of iron and soap. *Liverpool*, the most eastern town in the British Isles. *Colchester*, noted for its oyster-fisheries.

SOUTHERN COUNTIES.—*Maidstone*, the principal seat of the hop trade. *Chatham* (Chat'-um) and *Woolwich* (Wool'-ich) are famous for their royal arsenals and magnificent dockyards. *Gravesend*, a favourite summer resort for the Londoners. *Greenwich* (Green'-ich), celebrated for its naval hospital, and for its royal observatory, from which the longitude is reckoned on all British maps. *Canterbury*, the see of an archbishop who is primate of all England, is one of the most ancient cities in the kingdom. *Dover*, 21 miles distant from the French coast, is the chief point of communication with the Continent. *Chichester*, the birthplace of the poet Collins. *Hastings*, the chief of the famous "Cinque Ports," and the scene of a celebrated battle between Harold II., the last king of the Saxons, and William the Conqueror, in 1066. *Brighton*, a romantic town, and the gayest watering-place in England. *Richmond*, noted for the beauty of its scenery and extensive park. *Reading*, the birthplace of Archbishop Land. *Windsor* (Win'-zer), the favourite residence of the sovereigns of England, with a park 56 miles in circumference. *Winchester*, long the capital of England, contains the remains of

many of the Saxon princes. *Southampton*, the place from which are despatched the mails to the Mediterranean, China, and the East and West Indies. *Portsmouth*, the headquarters of the British royal navy, has a magnificent harbour, dockyards, and arsenal, and is very strongly fortified. *Newport*, the chief town in the Isle of Wight. *Salisbury* (Saulz'-ber-e), with a magnificent cathedral, the spire of which is the loftiest in the kingdom. On Salisbury Plain, 10 miles distant, are the far-famed Druidical remains of Stonehenge and Avebury. *Bath*, the handsomest city in England, derives its name from its hot medicinal springs. *Exeter*, a fine old town, with a beautiful cathedral. *Plymouth* (Plim') and *Devonport*, closely contiguous to each other, have a stupendous breakwater, extensive commerce, and form a principal station for the royal navy. *Penzance* (zance'), one of the "Stannery towns," is the birthplace of Sir Humphrey Davy. *Falmouth*, a foreign mail-packet station, possesses a fine harbour.

WESTERN COUNTIES.—*Monmouth* (Mon'-muth), the birthplace of Henry V. and of Geoffrey the annalist. *Newport*, noted for its shipbuilding and for its exports of coal. *Hereford* (Her'-e-ford), the birthplace of Garrick the comedian. *Shrewsbury* (Shroze'-), the scene of a bloody engagement in 1403 between Henry IV. and Hotspur. *Chester*, a fine ancient city, surrounded by walls, and exporting cheese in large quantities. *Birkenhead*, opposite Liverpool, with extensive docks, is fast rising into commercial importance. *Stockport*, a flourishing city, with extensive manufactures of cotton, silk, brass, and iron goods. *Lancaster*, on the Lune, over which there is a superb aqueduct. *Preston*, *Blackburn*, *Burnley*, *Wigan*, *Warrington*, *Ashton-under-Lyne*, *Bury*, *Oldham*, *Bolton*, and *Rochdale*, all large and populous towns, mainly depending for their subsistence on the manufacture of cotton, and hence, with Manchester, termed the "cotton towns." In 1862, the supply of the raw material having failed, owing to the civil war in the United States, nearly half a million of the inhabitants of Lancashire were suddenly plunged into destitution, when a voluntary contribution, amounting to one and a half million pounds sterling, was made on their behalf throughout all parts of the empire. *Liverpool*, a large flourishing city on the estuary of the Mersey, and, next to London, the most populous in the kingdom, carries on a vast maritime commerce, especially with the United States, importing thence cotton wool, and exporting cotton cloth to all parts of the world. *Manchester* and *Salford*, united by six bridges across the Irwell, nearly equal Liverpool in population. Manchester is the great centre of the cotton manufacture, and is probably the greatest manufacturing city in the world. *Carlisle*, an ancient manufacturing town, where Mary Queen of Scots was confined by order of Elizabeth. It surrendered to the Highland army under Prince Charles in 1745. *Whitehaven*, on the Cumberland coal-field, is largely engaged in mining.

MIDLAND COUNTIES.—*Derby*, an important manufacturing town, noted for its silks, porcelains, and ornaments in flint-spar. *Nottingham*, the great centre of the lace manufactures. *Newark*, here Charles I. surrendered to the Scottish army after his defeat at Naseby. Near it is Sherwood Forest, the favourite haunt of Robin Hood. *Stafford*, the birthplace of Isaac Walton. *Burton-on-Trent* has been long noted for its superior ales. The bridge here across the river has thirty-seven arches, and is the longest in England. *Newcastle-under-Lyne*, noted for its hats, has in its vicinity the famous pottery establishment of Josiah Wedgwood. *Stoke-upon-Trent*, the centre of "The Potteries"—a district so named from the immense quantities of earthenware there manufactured. *Walsall* and *Bilston* have immense iron-works. *Lichfield*, the birthplace of the celebrated Samuel Johnson. *Wolverhampton*, noted for its hardware and japanned-ware manufactures. *Leicester* (Les'-ter), the chief seat of the woollen hosiery manufacture. *Worcester* (Woos'-ter), noted for its excellent porcelain. *Kidderminster*, long famous for its carpets. *Dudley*, one of the principal seats of the iron trade. *Warwick* (Wor'-rick): its castle is the most complete specimen of a feudal fortress in the kingdom. *Stratford*, the birthplace of William Shakespeare in 1564. *Leamington*, with medicinal springs, is a fashionable watering-place. *Coventry*, the chief seat of the ribbon manufacture. *Birmingham*, the second manufacturing city in England, is chiefly famous for its manufacture of firearms, cutlery, steam-engines, and toys. *Northampton*, the chief seat of the boot and shoe manufacture. *Peterborough*, the birthplace of Paley, and the burial-place of Mary Queen of Scots. *Huntingdon*, the birthplace of Oliver Cromwell. *Cambridge* (Came'-), the seat of a celebrated university, founded in the seventh century, and chiefly distinguished for mathematical science. *Gloucester* (Glos'-ter),

a great seat of the pin manufacture, and the birthplace of George Whitefield. *Bristol*, with extensive iron and brass foundries, is reckoned the third seaport in England. *Stroud*, the centre of the woollen manufacture, has been long noted for its scarlet dyes. *Cheltenham* (Chelt'-nam) rivals Bath as a watering-place. *Oxford*, the seat of a celebrated university founded in the ninth century, and chiefly renowned for classical learning. Near *Buckingham* is Stow, the magnificent seat of the Duke of Buckingham. *Eton*, distinguished for its great public school, founded in 1440. *Bedford*, noted for its straw-plait manufacture: near it *Elstow*, the birthplace of John Bunyan. *Hertford* (Har'-furd), capital of Herts, on the Lea. *St Alban's*, the scene of two battles between the rival houses of York and Lancaster. **LONDON**—the capital of England, the metropolis of the British Empire, and the largest, wealthiest, most populous and commercial city in the world—stands on both sides of the Thames, which is navigable for large vessels up to London Bridge. London is upwards of 10 miles square, occupies an area of 120 square miles, and in 1861 had a population of 2,803,000, or nearly the population of Scotland in 1851. But this includes, besides London proper, the populous suburbs of Blackwall, Chelsea, Kensington, Greenwich, Woolwich, and others of less note. London existed in Druidical times, long before the arrival of the Romans. It became the capital of England under Alfred the Great, A.D. 804, and obtained its first royal charter from William the Conqueror in the eleventh century.

WALES.—*Mold*, a small town with coal and lead mines. *Holywell*, with rich copper and lead mines, derives its name from the Well of St Winifred, the most copious fountain in Britain—discharging twenty-one tons of water per minute. *Wrexham*, (rex'-am) with coal and lead mines, and a considerable trade in flannels. *Caernarvon* (Ker-nar'-) exports copper ore and slates. *Bangor*, noted for its two magnificent viaducts across the Menai Strait—one of them a tubular iron bridge, 1513 feet long, and 100 feet above the sea-level. *Holyhead*, the steam-packet station to Dublin, 70 miles distant. *Montgomery*, the scene of the last struggle between the Welsh and English in 1294. *Welshpool*, regarded as the capital of North Wales, is the limit of navigation on the Severn. *Pembroke* possesses a Government dockyard. *Caermarthen*, one of the most flourishing towns in Wales, has a large export trade. *Cardiff*, the principal port for the minerals of South Wales. *Swansea*, a considerable town, with numerous smelting furnaces for the copper ore of Anglesea, Cornwall, and Australia. *Merthyr-Tydvil*, in the centre of the great coal-field of South Wales, is by far the most important town in the principality: mining and iron-smelting are extensively carried on.

Capes.—Flamborough Head and Spurn Head, E. of Yorkshire; Lowestoft Ness, E. of Suffolk, the most eastern point of Great Britain; North Foreland and South Foreland, E. of Kent; Beachy Head and Selsea Bill, S. of Sussex; Needles, W. of Isle of Wight; Portland Point, S. of Dorset; Start Point, S. of Devon; Lizard Point, in Cornwall, the most southern point of Great Britain, and Land's-End, the westmost point of England; Hartland Point, N. of Devon; St David's Head, W. of Pembroke; Brach-y-Pwll (Brach-e-Pool'), S.W. of Caernarvon; Holyhead, N.W. of Anglesea; St Bees Head, W. of Cumberland.

Islands.—Holy I., Fern Is., and Coquet I., E. of Northumberland; Sheppey and Thanet in north of Kent; Isle of Wight, S. of Hants; Channel Isles, N.W. of France, capital, *St Helier*, the seat of the local parliament, and the most southern town of the British Isles, has a population of 30,000; Scilly Isles (Sil-), S.W. of Cornwall; Anglesea and Holyhead, N.W. of Wales; Isle of Man in the Irish Sea, capital, *Douglas*, with 10,000 inhabitants, the birthplace of Edward Forbes, the eminent naturalist.

Bays and Straits.—Humber Mouth, between York and Lincoln; the Wash, between Lincoln and Norfolk; Mouth of the Thames, between Essex and Kent; the Downs, between Kent and the Good-

win Sands; Strait of Dover, between Kent and France; Spithead and Solent, between Hants and Isle of Wight; Mount's Bay, S.E. of Cornwall; Bideford Bay, N. of Devon; Bristol Channel, between Somerset and Wales; Swansea and Caermarthen Bays, S. of Wales; Milford Haven, Cardigan Bay, and Caernarvon Bay, W. of Wales; Menai Strait (Me'-), between Caernarvon and Anglesea; Morecambe Bay (-cam), W. of Lancashire.

Mountain System.—A single mountain-chain of moderate elevation traverses the western side of the kingdom, with few interruptions, from the borders of Scotland to Land's-End in Cornwall, and, with the lateral ranges that proceed from it, originates nearly all the principal rivers of the kingdom, and determines their directions and the extent of their basins. It consists of three main sections:—

NORTHERN RANGE, extending from Berwick to the Peak of Derby, and embracing three minor ranges—viz., the *Cheviot Hills*, between Scotland and England, and between the basins of the Tweed and Tyne; Cheviot Peak, Northumberland, 2688 feet: the *Pennine Chain*, stretching from the S.W. extremity of the Cheviots to Derbyshire, and forming the watershed between the North and Irish Seas; highest summits, Bow Fell, 2911 feet, Cross Fell, 2901 feet, Ingleborough, 2361 feet: the *Cumbrian Mountains*, an offshoot from the Pennine Chain, containing the loftiest summits in England proper; Scaw Fell, 3229 feet, Helvellyn, 3055 feet, Skiddaw, 3022 feet.

CAMBRIAN RANGE, in Wales, separating the basins of the Severn and Irish Sea, and exceeding the Cumbrian mountains in elevation; Snowdon, 3590 feet, Cader Idris, 2950 feet, the Beacon, 2862 feet, Malvern Hills, 1396 feet.

DEVONIAN RANGE, extending from Worcestershire to Land's-End, and forming the water-parting between the Bristol and English Channels; Cotswold Hills, 1184 feet, Mendip Hills, 1000 feet, Brandon Hills, 1428 feet, Dartmoor, 2077 feet, Brown Willy, in Cornwall, 1364 feet.

Table of Rivers and Towns.—In the following table will be found all the principal rivers in England, with the chief towns situated on their banks.

The rivers are given in the order in which their mouths would occur to one sailing along the coast from Berwick to Kent, Cornwall, and Cumberland; while their affluents or tributaries are given in the order in which they would occur to one sailing *up* the main river, the affluents entering on the left bank of the river being distinguished by the letter *l*. The affluents are placed a little further to the right than the main stream, and sub-affluents still further to the right. In giving the towns, we commence with the one nearest the mouth of the river, and then proceed upwards. Thus the entire extent of each river-basin, with all the important towns in that basin, are seen at a glance. The kingdom being triangular, the river-basins incline towards one or other of three seas—viz., the North Sea, English Channel, and Irish Sea.

Basins inclined to the North Sea.

<i>Rivers.</i>	<i>Towns.</i>
Tweed,	Berwick.
Wansbeck,	Morpeth.
Tyne,	Tynemouth, Shields, NEWCASTLE, Gateshead.
Wear,	Sunderland, DURHAM.
Tees,	Stockton, Darlington, n.
Esk,	Whitby.
Humber and Trent,...	Great Grimsby, Hull; Newark, NOTTINGHAM, Burton, Stoke, Newcastle-under-Lyne.
Ludd,	Louth.
Ouse and Ure, l ...	YORK; Hawes.
Don,	Doncaster, Sheffield.
Rother,	Chesterfield.
Aire,	Leeds, Bradford.
Calder,	Wakefield, Huddersfield, n., Halifax.
Soar,	Loughborough, LEICESTER.
Wroak,	OAKHAM.
Derwent, l	DERBY, Belper.
Tame,	Lichfield, Walsall.
Rea,	Birmingham.
Sow,	STAFFORD.
Witham,	Boston, LINCOLN.
Nen,	Peterborough, NORTHAMPTON.
Great Ouse,	Lynn-Regis, Ely, St Ives, HUNTINGDON, BEDFORD, BUCKINGHAM.
Larke,	Bury St Edmund's.
Cam,	CAMBRIDGE.
Yare,	Yarmouth, NORWICH.
Orwell,	IPSWICH.
Colne,	Colchester.
Blackwater,	Chelmsford, n., on the Chelmer.
Thames,	Gravesend, Woolwich, Greenwich, LONDON, BRENTFORD, Kingston, Eton, Windsor, READING, OXFORD.
Medway,	Chatham, Rochester, Maidstone.
Lea, l	HERTFORD, Luton.
Wey,	GUILDFORD.
Colne, l	St Alban's.
Kenet,	READING, Marlborough.
Thame, l	Aylesbury.
Evenlode, l	Woodstock, n.
Stour,	Canterbury.

Basins inclined to the English Channel.

Str. of Dover,	Dover.
Lavant,	CHICHESTER.
Itchin,	Southampton, WINCHESTER.
Avon,	SALISBURY.
Stour,	Shaftesbury, n.
Frome,	Poole, DORCHESTER.

Basins inclined to the English Channel (continued).

<i>Rivers.</i>	<i>Towns.</i>
Wey,	Weymouth.
Exe,	EXETER.
Plymouth Sd.,	Plymouth, Devonport.
Falmouth Hr.,	Falmouth, Truro.

Basins inclined to the Irish Sea.

Camel,	BODMIN.
Taw,	Barnstaple.
Parret,	Bridgewater.
Tone, l	Taunton.
Lower Avon,	Bristol, BATH, Trowbridge.
Severn,	GLOUCESTER, WORCESTER, Much-Wenlock n., SHREWSBURY, Welshpool, MONTGO- MERY.
Frome, l	Stroud.
Chelt, l	Cheltenham.
Upper Avon, l	Stratford, WARWICK.
Leam, l	Leamington.
Sow,	Coventry, n.
Stour, l	Kidderminster, Stourbridge, Dudley, n.
Smestow, l	Wolverhampton, Bilston, n.
Wye,	MONMOUTH, HEREFORD.
Lugg, l	Leominster, NEW RADNOR, n.
Usk,	Newport, BRECON.
Taff,	CARDIFF, Merthyr-Tydvil.
Tawy,	Swansea.
Towey,	CAERMARTHEN.
Milford Hn.,	PEMBROKE, Haverfordwest.
Teivy,	CARDIGAN.
Ystwith,	Aberystwith.
Maw,	DOLGELLY, n.
Menai Str.,	CAERNARVON, Bangor, BEAUMARIS.
Clwyd,	DENBIGH, n.
Dee,	Holywell, Flint, CHESTER, Wrexham, n.
Allen, l	MOLD.
Mersey and Tame, ...	Liverpool, Birkenhead, Warrington, Stock- port; Ashton-under-Lyne, Staley Bridge.
Bollin, l	Macclesfield.
Irwell,	Manchester, Salford, Bury.
Medlock, l	Oldham.
Crole	Bolton.
Ribble,	Preston.
Douglas, l	Wigan.
Darwen, l	Blackburn, n.
W. Calder, l	Burnley.
Lane,	LANCASTER.
Ken,	Kendal.
Eden,	CARLISLE, APPLEBY.

Lakes.—The English lakes are few in number, very small in dimensions, and mostly confined to the Cumbrian group of mountains. Windermere, in Westmoreland, the largest lake in South Britain, is $10\frac{1}{2}$ miles long, 1 mile broad, and is drained by the Leven into Morecambe Bay; Ulleswater, in the same county, is the next largest, and is drained by the Eden; while the Lake of Bala, in Merionethshire, 4 miles long, is the largest in Wales, and is drained by the Dee. The lakes of Cumberland are celebrated for their beauty, and are much resorted to by tourists.

CLIMATE, MINERALS, BOTANY, AGRICULTURE, ZOOLOGY, ETHNOGRAPHY, GOVERNMENT, ARMY AND NAVY, COMMERCE AND FINANCE, INTERNAL COMMUNICATION, and COLONIAL POSSESSIONS, see above, under "*British Isles*."

SCOTLAND.

Boundaries.—N. and W., the Atlantic; S., England; E., the North Sea. Lat. $54^{\circ} 38'$ — $60^{\circ} 49'$ N.; lon. $1^{\circ} 45'$ — $8^{\circ} 34'$ W.

The form of the mainland is extremely irregular, with numerous deep indentations: extreme length, from Dunnet Head to Mull of Galloway, 276 miles; breadth, from Buchan Ness to Point of Ardnamurchan, 175 miles; coast-line, including the main inlets, 2500 miles. Edinburgh, the capital (lat. $55^{\circ} 57'$), is in the same latitude as Copenhagen, Moscow, and Nain in Labrador; and in the same longitude as Kirkwall, Wick, Elgin, Dumfries, Birkenhead, Exeter, Vannes, and Madrid.

Area and Population.—The area, including the islands, is 31,324 square miles, or more than one-third of the area of Great Britain with the circumjacent isles; while the population in 1871 was 3,358,613, or nearly 107 persons per square mile. England is therefore $3\frac{1}{2}$ times more densely peopled than Scotland.

Political Divisions.—Scotland is divided into thirty-three counties, which, with their principal towns, are as follows:—

THIRTEEN SOUTHERN COUNTIES.

Edinburgh or Mid-Lothian.—EDINBURGH 198 n., Musselburgh 7, Portobello 5, Leith 44 (Firth of Forth), Dalkeith 5 (Esk).

Haddington or East Lothian.—Haddington 4 (Tyne), Dunbar 3 (Firth of Forth).

Berwick.—Greenlaw 1 (Blackadder), Dunse 3 (Whiteadder).

Roxburgh.—Jedburgh 3 (Jed), Hawick 11 (Teviot), Kelso 4 (Tweed).

Dumfries.—Dumfries 15 (Nith), Annan 3 (Annan).

Kirkcudbright.—Kirkcudbright 3 (Dee), Maxwelltown 4 (Nith).

Wigtown.—Wigtown 2 (Wigtown Bay), Stranraer 6 (Loch Ryan).

Ayr.—Ayr 19 (Ayr), Irvine 7, Kilmarnock 23 (Irvine), Girvan 6 (Girvan).

Renfrew.—Renfrew 4, Port-Glasgow 11, Greenock 57 (Firth of Clyde), Paisley 48, Pollokshaws 7 (White Cart), Barrhead 6 (Levern).

Lanark.—Lanark 5, Glasgow 477, Rutherglen 9, Hamilton 11 (Clyde), Airdrie 13 (N. Calder).

Linlithgow or West Lothian.—Linlithgow 4 n., Bathgate 5 (Avon).

Peebles.—Peebles 2 (Tweed).

Selkirk.—Selkirk 5 (Ettrick), Galashiels 10 (Gala).

TEN CENTRAL COUNTIES.

- Fife.**—Cupar 5 n., St Andrews 6 n. (Eden), Dysart 9, Kirkcaldy 12 (F. of Forth), Dunfermline 15 (Lyne).
Winross.—Kinross 2 (Leven).
Clackmannan.—Clackmannan 1 (Black Devon), Alloa 6 (Forth).
Stirling.—Stirling 14 (Forth), Falkirk 9 (Carron).
Dumbarton.—Dumbarton 11 (Clyde), Kirkintilloch 6 (Kelvin).
Bute.—Rothesay 7 (E. coast of Bute).
Argyll.—Inverary 1 (Loch Fyne), Campbeltown 7 (Kilbrannan Sound).
Perth.—Perth 26 (Tay), Crieff 4 (Earn).
Forfar.—Dundee 119 (Firth of Tay), Forfar 11 (Dean), Arbroath 20 (Brothock), Montrose 15, Brechin 8 (S. Esk).
Kincardine.—Stonehaven 3 (E. coast).

TEN NORTHERN COUNTIES.

- Aberdeen.**—Aberdeen 88 (Dee), Peterhead 8 (Ugie).
Banff.—Banff 7 (Deveron), Cullen 3 (N. coast).
Moray or Elgin.—Elgin 7 (Lossie), Forres 4 (Findhorn).
Nairn.—Nairn 4 (Nairn).
Inverness.—Inverness 14 (Ness).
Ross.—Dingwall 2 (Cromarty Firth), Tain 2 (Dornoch Firth).
Cromarty.—Cromarty 2 (Cromarty Firth).
Sutherland.—Dornoch 1 (Dornoch Firth).
Caithness.—Wick 8 (E. coast), Thurso 3 (Pentland Firth).
Orkney and Shetland.—Kirkwall 4 (in Orkney), Lerwick 3 (in Shetland).

Descriptive Notes.—There are twenty-seven towns in Scotland of between 5000 and 10,000 inhabitants; thirteen between 10,000 and 20,000; four between 20,000 and 50,000 (Paisley, Leith, Perth, Kilmarnock); two between 50,000 and 100,000 (Aberdeen, Greenock); and three above 100,000 (Glasgow, Edinburgh, Dundee).

SOUTHERN COUNTIES.—**EDINBURGH**, the capital of Scotland, and one of the most elegantly built cities in Europe, is the seat of the supreme courts of law, and of a celebrated university. Among the more interesting public buildings may be mentioned the Castle, situated on a precipitous rock, and containing the ancient regalia of Scotland; the Palace of Holyrood, where the sovereign resides when visiting Edinburgh; St Giles's Cathedral, where in 1643 was subscribed the Solemn League and Covenant; Parliament House, where the Scottish Parliament met before the Union; Victoria Hall, where the General Assembly of the Established Church meets annually; New College, where the ministers of the Free Church receive their theological training; the Royal Institution; the National Gallery; Register House; Post Office; and Sir Walter Scott's Monument. **Leith**, the seaport of Edinburgh, a large town, with a commodious harbour, considerable foreign trade, and various manufactures. **Musselburgh**, a small seaport town, near which was fought, in 1547, the battle of Pinky, between the English and Scotch; also that of Prestonpans, in 1745, when the forces under the Pretender routed the Royalists. **Haddington**, the birthplace of John Knox, has the largest market in Scotland for agricultural produce. **Greenlaw**, the smallest county town in Scotland, with the exception of Dornoch. **Jedburgh**, near the Cheviot Hills, is famous in border warfare, and contains the ruins of an ancient abbey founded by David I. **Hawick** (Haw'-), twice the size of Jedburgh, has manufactures of hosiery and other woollen goods. **Kelso**, beautifully situated at the confluence of the Tweed and Teviot, with the remains of an abbey. **Dumfries**, a handsome town on the Nith, and regarded as the provincial capital of the south of Scotland, contains the remains of John Comyn and of Robert Burns. **Kirkcudbright** (Kir-koo'-bree), a small town on the estuary of the Dee, possesses the best harbour in the south of Scotland. **Wigtown**, a small town, with a consider-

able trade in agricultural produce. *Ayr*, a fine seaport town, with considerable trade and manufactures, was the scene of the early achievements of Sir William Wallace: the poet Burns was born in the vicinity, in 1759. *Irvine*, with a large export trade in coal. *Kilmarnock*, the largest town in Ayrshire, has extensive manufactures of carpets and shawls. *Renfrew*, the supposed birthplace of Sir William Wallace, in 1276. *Port-Glasgow*, long the port of Glasgow, is the chief place on the Clyde for importing American timber. *Greenock*, a large, thriving town on the Clyde, and the principal seaport in the west of Scotland, is noted for its ship and steamboat building, and as being the birthplace of James Watt, the inventor of the steam-engine, in 1736. *Paisley*, a large manufacturing town near Glasgow, long noted for its shawls, has extensive coal and iron mines in the vicinity, and is the birthplace of Professor Wilson, Robert Tannahill, and Alexander Wilson the ornithologist. *Lanark*, the nominal capital of the county, with a huge statue of Wallace. *Glasgow*, the largest city in Scotland, and the third largest in Britain, is the great seat of the commerce and manufactures of Scotland: here are numerous cotton factories, extensive coal and iron works, and large shipbuilding docks. The Cathedral, founded in 1123, is the only perfect specimen of the ancient Gothic in Scotland; and the University, which has 22 professors and about 1300 students, was instituted in 1450 by Pope Nicholas V. *Linlithgow*, a town of great antiquity, with remains of a royal palace, where Mary Queen of Scots was born in 1542. *Peebles*, a small town at the confluence of the Tweed and the Eddleston, with some woollen manufactures. *Selkirk*, long noted for the manufacture of shoes, was the birthplace of Mungo Park, the African traveller.

CENTRAL COUNTIES.—*Cupar*, a manufacturing town on the Eden. *St Andrews*, a town of great antiquity, with a celebrated university—the oldest in Scotland. *Dunfermline*, a place of great historical interest, but chiefly noted in modern times for its linen manufactures. *Alloa*, near the head of the Firth of Forth, is noted for its excellent ale. *Stirling*, a place of great historical importance in the early annals of Scotland, contains a castle of great antiquity, situated on the brow of a precipitous rock. Near it is *Bannockburn*, famous for a victory gained by the Scots, under Bruce, over the English in 1314. *Falkirk*, noted for its cattle *trysts*, and for being the scene of two memorable battles—one between Wallace and Edward I. in 1298, and the other between the Pretender and the royal army in 1746. *Dumbarton* contains an ancient castle—one of the four upheld in Scotland at the public expense, in terms of the Articles of the Treaty of Union. *Rothesay*, a chief resort for invalids and sea-bathers. *Inverary*, on Loch Fyne, noted for its excellent herrings. *Perth*, a beautiful city on the Tay, was once the capital of Scotland; it figures prominently in Scottish history, and had in its vicinity the royal palace of Scone, where the kings of Scotland were wont to be crowned. *Forfar*, in the fertile valley of Strathmore, has some manufactures of coarse linens and shoes. *Dundee*, at the mouth of the Firth of Tay, is the third largest town in Scotland, and the principal seat of the linen manufacture. *Arbroath* (Ar-brōth), a thriving town, with numerous manufactures, contains the ruins of the famous Abbey of Aberbrothock. *Montrose* exports more corn than any other seaport in Scotland, and has several manufactures, chiefly of coarse linen and hempen fabrics. *Brechin* (Bre'-hin), an ancient episcopal city, with a cathedral and a round tower similar to those of Ireland. *Stonehaven*, a small town at the foot of the Grampians, has in its vicinity the ruins of Dunnottar Castle, formerly the residence of the Earls Marischal, and used as a state prison for the Covenanters in the time of Charles II.

NORTHERN COUNTIES.—*Aberdeen*, between the mouths of the Dee and Don, and the fourth largest city in Scotland, is a handsome town, built of beautiful grey-coloured granite, has extensive manufactures and commerce, and is the seat of a flourishing university. *Peterhead*, the most easterly town in Scotland, is the great emporium of the Greenland whale-fishery; herring-fishing is also extensively carried on; and it exports immense quantities of fine red granite to London. *Banff* (Bamf), a fine little town at the mouth of the Deveron, has a considerable export trade; in the immediate vicinity is Duff House, the seat of the Earl of Fife. *Elgin*, on the Lossie, five miles from its port (Lossiemouth), and at the intersection of two railways, is a very ancient town, and contains the remains of a beautiful cathedral, erected in 1224. *Nairn*, an antiquated-looking little town on the Nairn where it enters the Moray Firth; near it is Cawdor Castle, in which, according to tradition, King Duncan was murdered. *Inverness*, at the mouth of the Ness, near the entrance of the Caledonian Canal, is a fine old romantic-looking town, and is gene-

rally regarded as the capital of the Highlands; near it *Culloden Moor*, where in 1746 the pretensions of the Stuart dynasty were finally extinguished. *Dingwall*, an antique-looking little town at the head of Cromarty Firth; near it, Strathpeffer, with highly medicinal sulphurous and chalybeate springs, and frequented by numerous invalids. *Cromarty*, a small neat-looking town at the entrance of the Cromarty Firth, is the birthplace of Hugh Miller, the illustrious geologist. *Dornoch* (-nock), the smallest county-town in the British Isles. *Wick*, including Pulteneytown, twice its size, has for the last half-century been the headquarters of the Scottish herring-fishery. About a thousand boats are annually employed, chiefly manned by Western Highlanders, who, in the month of July, congregate here in vast numbers. *Kirkwall*, near the centre of the island Pomona, is an antique-looking town, containing a fine cathedral, erected in 1188, and dedicated to St Magnus. *Lerwick*, the most northern town in the British Isles, has manufactures of straw-plait, and is an important fishing-station.

Capes.—St Abb's Head, in Berwickshire; Fife Ness, in Fife; Buchan Ness in Aberdeenshire, the most eastern point of the mainland; Kinnaird's Head, at the entrance of the Moray Firth; Tarbat Ness, the eastern extremity of Ross; Noss Head and Duncansbay Head, E. of Caithness; Dunnet Head, the most northern point of the mainland; Cape Wrath, N. of Sutherland; Butt of Lewis, N. of Lewis; Aird Point, N. of Skye; Ardnamurchan Point, in Argyll, the most western point of Great Britain; Mull of Cantire, S. of Argyll; Mull of Galloway and Burrow Head, S. of Wigtownshire.

Islands.—Orkney Islands, N.E. of Caithness, the principal being Pomona and Hoy; Shetland Islands, N.E. of the Orkneys, the largest of which are Mainland and Yell; Hebrides or Western Islands, N.W. of Scotland, and consisting of two groups—viz., the Outer Hebrides, or Lewis, North Uist, Benbecula, South Uist, and Barra, and the Inner Hebrides, the chief of which are Skye and Mull; Jura and Islay, W. of Cantire; Arran and Bute in the Firth of Clyde; May and Inch Keith in the Firth of Forth.

Bays and Estuaries.—Firth of Forth, between the Lothians and Fife; Firth of Tay, between Fife and Forfar; Moray Firth, between Kinnaird's Head and Duncansbay Head (chief members: Beaulieu Firth, Cromarty Firth, and Dornoch Firth); Pentland Firth, between Caithness and Orkney; the Minch, between Sutherland and Lewis; Little Minch, between Skye and Uist; Lochs Broom, Torridon, and Carron, W. of Ross; Raasay Sound, between Raasay and Skye; Sleat Sound, between Inverness and Skye; Loch Sunart and Sound of Mull, between Mull and Ardnamurchan; Loch Linnhe, Sound of Jura, and Loch Fyne, in Argyll; Sound of Islay, between Jura and Islay; Kilbrannan Sound, between Cantire and Arran; Firth of Clyde, between Ayrshire and Bute; Loch Ryan, Luce Bay, and Wigtown Bay, in Wigtownshire; Solway Firth, between England and the S.W. of Scotland.

Mountain Ranges.—Scotland is a highly mountainous country. Proceeding from N. to S., we find five principal ranges, all of which are nearly parallel to each other, and run in a N.E. and S.W. direction, similar to the principal estuaries and river-basins.

The *North-Western Range*, in the four northern counties, and between the Minch and Moray Firth: highest summit, Ben Attow, in the S.W. of Ross, 4000 feet; other principal summits, Morven, in Caithness, 2334 feet; Ben Cliberich, 3165 feet, and Ben More, 3230 feet, in Sutherland; Ben Wyvis, 3422 feet, near Dingwall.

The *Grampian Range*, crossing the country in its widest part, separating for the most part the Highlands from the Lowlands, and the basins of the Ness, Spey, and Dee, from those of the Clyde and Tay. Ben Nevis, in the S.W. of Inverness, 4406 feet high, is the loftiest summit of the range, and the culminating point of the British Isles. The other principal summits are—Ben Macdui, 4296 feet; Cairngorm, 4090 feet; and Cairntoul, near the centre of the chain, 4245 feet; Schiehallion, in Perthshire, 3564 feet; and Ben Lomond, in Stirling, 3192 feet.

The *Ochil and Sidlaw Range*, parallel with the Grampians, and separated from them by the valley of Strathmore, consists of three small chains, which extend across the country from Forfarshire to Stirlingshire—viz., the Sidlaw Hills, in Forfar; the Ochil Hills, between the Firth of Tay and Stirling, 2300 feet; and the Campsie Fells, in Stirling.

The *Lammermuir and Pentland Range*, separated from the Ochil range by the Forth basin, also consists of three members—viz., the Lammermuir Hills, between Haddington and Berwick; Moorfoot Hills, in Mid-Lothian; and the Pentland Hills, between Mid-Lothian and Peebles, 1878 feet.

The *Cheviot and Louthier Range*, extending from Wooler, Northumberland, to Loch Ryan, in Wigtownshire, separates the basins of the Tweed and Clyde from those of the Solway and Tyne; Cheviot Peak, in Northumberland, 2688 feet; Ettrick Pen, in Selkirk, 2200 feet; Hart Fell, in Dumfries, 2638 feet; and Broad Law, in Peebles, the highest of the range, 2741 feet.

Table of Rivers and Towns.—The following table shows all the more important rivers of Scotland, with all the towns of not less than 5000 inhabitants situated on their banks. The latter are printed in Roman letters, except county towns, which are in SMALL CAPITALS. Towns of less than 5000 inhabitants, and above 2500, are given in *Italics*.—(For directions, see p. 43, bottom.)

Basins inclined to the North Sea.

<i>Rivers.</i>	<i>Towns.</i>
Tweed,	Berwick, Kelso, PEEBLES.
Whiteadder, <i>l</i>	<i>Dunse.</i>
Blackadder,	GREENLAW.
Teviot,	Kelso, Hawick.
Jed,	JEDBURGH.
Ettrick,	SELKIRK.
Tyne,	HADDINGTON.
Forth,	Musselburgh, Portobello, Leith, EDINBURGH, n. all on the south side of the Firth; Dysart, Kirkcaldy, Alloa, on the north side; STIR- LING.
Leven, <i>l</i>	KINROSS.

Basins inclined to the North Sea (continued).

<i>Rivers.</i>	<i>Towns.</i>
Esk,	Musselburgh, Dalkeith.
Lyne, <i>l</i>	Dunfermline.
Avon,	LINLITHGOW, n.
Carron,	Falkirk, n.
Black Devon, <i>l</i>	CLACKMANNAN.
Bannock,	Bannockburn.
Eden,	St Andrews n., CUPAR n.
Tay,	Dundee, PERTH.
Earn,	Crieff.
Isla, <i>l</i>	Coupar-Angus.
Dean, <i>l</i>	FORFAR.
Brothock,	Arbroath.
S. Esk,	Montrose, Brechin.
Cowie,	STONEHAVEN.
Dee,	ABERDEEN, Balmoral.
Don,	Old Aberdeen, Inverury.
Ugie,	Peterhead.
Deveron,	BANFF, Macduff, Turriff, Huntly.
Isla, <i>l</i>	Keith.
Spey,	Fochabers.
Lossie,	ELGIN.
Findhorn,	Forres.
Nairn,	NAIRN.
Ness,	INVERNESS.
Cromarty F.,	CROMARTY, DINGWALL.
Dornoch F.,	Tain, DORNOCH.
E. Co. Caithness,	WICK.
Pentland F.,	Thurso.

Basins inclined to the Atlantic.

Kilbrannan Sd.,	Campbeltown.
Loch Fyne,	INVERARY.
Clyde F. and R.,	AYR, Irvine, ROTHESAY, Greenock, Port-Glasgow, DUMBARTON, RENFREW, Glasgow, Rutherglen, Hamilton, LANARK.
Irvine, <i>l</i>	Irvine, Kilmarnock.
Garnock,	Kilwinning, Dalry, Kilbirnie.
Leven,	DUMBARTON, Alexandria.
Cart, <i>l</i>	RENFREW, Paisley, Pollockshaws.
Black Cart, <i>l</i>	Johnstone, Beith.
Levern, <i>l</i>	Barrhead.
Kelvin,	Kirkintilloch, Kilsyth.
N. Calder,	Airdrie.
Girvan,	Girvan, Maybole.
Loch Ryan,	Stranraer.
Wigtown Bay,	WIGTOWN.
Dee,	KIRKCUDBRIGHT.
Nith,	Maxwelltown, DUMFRIES.
Annan,	Annan.

Lakes.—With the exception of Switzerland, there is no country in Europe that can rival Scotland in the beauty and wild grandeur of its lakes. They are in general, however, very small, owing to the deep indentations of the ocean—Loch Lomond, the largest of them, having an area of only 40 square miles. The following are the principal lakes in Scotland, arranged in the order of the river-basins to which they belong :—

Forth Basin : Lochs Ard, Katrine, Lubnaig, Voil, in Perthshire, and Leven in Kinross. *Tay Basin* : Lochs Tay, Earn, Rannoch, Ericht, and Lydoch, in Perthshire. *Ness Basin* : Lochs Ness, Oich, Garry, and Quoich, in Inverness-shire. *Conon Basin* : Lochs Luichart and Fannich, in Ross-shire. *Oikel Basin* : Loch Shin, in Sutherland. *Naver Basin* : Loch Naver, in Sutherland. *Ewe Basin* : Loch Maree, in Ross-shire. *Moidart Basin* : Loch Shiel, between Inverness and Argyll. *Linnhe Basin* : Lochs Lochy, Arkaig, Treag, Laggan, and Awe. *Clyde Basin* : Loch Lomond, between Dumbarton and Stirling, the largest lake in Great Britain, drained by the Leven.

For the CLIMATE, MINERALS, BOTANY, AGRICULTURE, ZOOLOGY, ETHNOGRAPHY, GOVERNMENT, COMMERCE, and INTERNAL COMMUNICATION, see above, under "*British Isles*."

IRELAND.

Boundaries.—Ireland, the third largest island in Europe, and the second in the British archipelago, is bounded on the E. by the Irish Sea, with its two inlets, the North Channel and St George's Channel, separating it from Great Britain; and on the N., W., and S., by the Atlantic. Lat. $51^{\circ} 27' - 55^{\circ} 23' N.$; lon. $5^{\circ} 26' - 10^{\circ} 28' W.$

The form is rhomboidal or diamond-shaped, the diagonal or extreme length (from Fair Head in the N.E. to Mizen Head in the S.W.) measuring above 300 miles; while the four sides are formed by lines passing through Fair Head, Urris Head, Mizen Head, and Carnsore Point, the first of which is only 13 miles from the Mull of Cantire, in Scotland. The extreme breadth, from the east coast of Down to the west of Mayo, is 180 miles; but between the opposite Bays of Dublin and Galway it is only 110 miles. The coast-line, which is low and flat on the east, but bold, rocky, and deeply indented on the other sides, measures about 2200 miles, including the principal indentations. Dublin, the capital (lat. $53^{\circ} 23'$), is on the same parallel as Liverpool, Hamburg, Stettin, Samara, Irkutsk, mouth of the river Amoor in Siberia, and Cape Charles in Labrador; and on the same meridian as the Farøe Isles, Cadiz, and Morocco.

Area and Population.—The area, including the adjacent islands, is 32,512 square miles, being one-eighth larger than Scotland, or nearly two-fifths the size of Great Britain. The population in 1871 was 5,402,759, or 166 persons per square mile. It is thus not half as densely peopled as England; but during the last thirty years the population has decreased to the extent of nearly 3 millions, a result mainly owing to emigration and the great famine of 1846.

Political Divisions.—Ireland is divided into four provinces—viz., Ulster, in the N.E.; Leinster, in the S.E.; Munster, in the S.W.; and Connaught, in the N.W. These are subdivided into thirty-two counties.

ULSTER—*Nine Counties.*

Antrim.—Belfast 174 (Belfast Lough), Lisburn 7 (Lagan), Ballymena 7 (Braid).

Down.—Downpatrick 4, Newtownards 10 (L. Strangford), Newry 11 (Newry).

Armagh.—Armagh 9 (Callan), Lurgan 8, Portadown 6 (Bann).

Monaghan.—Monaghan 4 (Ulster Canal), Clones 2 (Wattle).

Cavan.—Cavan 3 (Erne), Cootehill 2 (Annalee).

Fermanagh.—Enniskillen 6 (Erne).

Donegal.—Lifford 1 (Foyle), Ballyshannon 3 (Erne).

Londonderry.—Londonderry 25 (Foyle), Coleraine 6 (Bann).

Tyrone.—Omagh 3, Strabane 4 (Mourne), Dungannon 4 n. (Blackwater).

LEINSTER—*Twelve Counties.*

Louth.—Dundalk 10 (Castleton), Drogheda 14, partly in Meath (Boyne).

Meath.—Trim 2, Navan 4 (Boyne), Kells 3 (Blackwater).

Dublin.—DUBLIN 246 (Liffey), Kingstown 12 (Dublin Bay).

Wicklow.—Wicklow 3 (Vartry), Arklow 5 (Avoca).

Wexford.—Wexford 12, Enniscorthy 5 (Slaney), Gorey 3 n. (Bann), New Ross 7 (Barrow).

Kilkenny.—Kilkenny 13 (Nore).

Queen's County.—Maryborough 3, Mountmellick 3 (Barrow).

King's County.—Tullamore 5 (Cloddagh), Parsonstown 5 (Lower Brusna).

West Meath.—Mullingar 5 (Brusna), Athlone 6 (Shannon).

Longford.—Longford 5 (Camlin).

Kildare.—Athy 4 (Barrow), Naas 3 n. (Liffey), Maynooth 2 (Rye).

Carlow.—Carlow 8 (Barrow).

MUNSTER—*Six Counties.*

Waterford.—Waterford 23, Portlaw 4 (Suir), Dungarvan 6 (Dungarvan Bay).

Cork.—Cork 79 (Lee), Queenstown 9 (Cork Harbour), Skibbereen 4 (Ilen), Kinsale 4 (Kinsale Harbour), Bandon 6 (Bandon), Youghal 6, Fermoy 6, Mallow 4 (Blackwater).

Kerry.—Tralee 10 (Lee), Killarney 5 (L. Killarney), Dingle 2 (Dingle Bay).

Clare.—Ennis 7 (Fergus), Kilrush 5 (Shannon).

Tipperary.—Clonmel 11, Carrick-on-Suir 5, Cashel 4 n., Thurles 5, Templemore 3 (Suir), Tipperary 6 (Arra), Nenagh 6 (Nenagh).

Limerick.—Limerick 40 (Shannon), Rathkeale 3 (Deal).

CONNAUGHT—*Five Counties.*

Galway.—Galway 13 (Corrib), Tuam 5 (Clare), Gort 2 (Cooter), Ballinasloe 3, partly in Roscommon (Suck).

Mayo.—Castlebar 3 (Castlebar), Ballina 6 (Moy), Westport 4 (Clew Bay).

Sligo.—Sligo 10 (Garvogue).

Leitrim.—Carrick-on-Shannon 2 (Shannon).

Roscommon.—Roscommon 3, Ballinasloe 3, partly in Galway (Suck), Athlone 6, partly in West Meath (Shannon).

Descriptive Notes.—There are in Ireland thirty-six towns with a population varying from 5000 to 10,000; twelve between 10,000 and 20,000; three between 20,000 and 50,000—viz., Londonderry, Waterford, and Limerick; and three above 50,000—viz., Dublin, Belfast, and Cork.

ULSTER.—*Belfast* (Bel-fast'), generally regarded as the capital of Ulster, is the second city in Ireland in point of population, and the first in manufacturing industry. Linen and cotton factories are numerous, and the foreign commerce is considerable: it maintains extensive intercourse with Liverpool, Glasgow, and other places on the west coast of Great Britain, and is the seat of one of the "Queen's Colleges." *Downpatrick*, one of the most ancient towns in Ireland, and the burial-place of St Patrick, the patron saint of the island. *Armagh* (Ar-maw'), the ecclesiastical capital of Ireland, is a handsome and very ancient town, with an observatory and two cathedrals. *Lurgan*, on the Bann, has extensive linen and cotton works. *Monaghan* (Mon'-a-han), on the Ulster Canal, which unites Loughs Neagh and Erne, trades extensively in linen and pigs. *Cavan* (Cav'-an), the head of a poor-law union, has a good local trade. *Enniskillen*, delightfully situated on an island in Lough Erne, carries on a considerable trade in linen and provisions: in its townhall are still preserved the banners borne by the Enniskilleners at the celebrated battle of the Boyne, July 1, 1690. *Lifford*, the smallest county town in the British Isles. *Ballyshannon*, at the mouth of the Erne, and the principal town in Donegal, possesses a valuable salmon-fishery. *Londonderry*, on the Foyle, an ancient, flourishing, and walled city, famous for the siege it sustained in 1689 against the forces of James II. It has an extensive home and colonial trade, and is the second city in Ulster in point of population. *Coleraine* (Cole-rain'), on the Bann, is distinguished for its fine linen manufactures. *Omagh* (O-maw'), a small town, on the Roe, with a considerable trade in linen and corn. *Dungannon*, the ancient residence of the kings of Ulster.

LEINSTER.—*Dundalk*, a busy seaport town, with an excellent harbour, considerable export trade, and various manufactures. *Drogheda* (Dro'-he-da), a flourishing seaport town at the mouth of the Boyne, and near the scene of the celebrated battle of that name, in 1690, which proved so fatal to the pretensions of the Stuarts in Ireland. *Trim*, a small town on the Boyne; near it was born the late Duke of Wellington in 1769. *Nasau* (Nav'-an), at the confluence of the Boyne and Blackwater, has a good export trade in agricultural produce. *Kells*, on the Blackwater, has some lace manufactures, and a round tower 90 feet high. *Dublin*, the capital of Ireland, and one of the finest cities in Europe, stands at the mouth of the Liffey. It has a quarter of a million inhabitants, and numerous magnificent public buildings, among which is Trinity College, founded by Queen Elizabeth in 1591. Adjoining the city is Phoenix Park, containing the residence of the Lord-Lieutenant, her Majesty's representative in Ireland. *Wexford*, a considerable seaport town at the mouth of the Slaney, with an active export trade in cattle, dairy produce, and hides: it was taken in 1169 by the first English adventurers in Ireland. *Ennisecorby*: near it is Vinegar Hill, where the Irish rebels were defeated by Lord Lake in 1798. *New Ross*, on the Barrow, with considerable export trade in agricultural produce. *Kilkenny*, on the Nore, is the second city in Leinster in point of population; the streets are paved with black marble, quarried in the vicinity. *Tullamore*, on the Grand Canal, is a thriving town and shipping station. *Parsonstown* or *Birr*, famous for Lord Rosse's monster telescope, one of the greatest achievements of modern science. *Mullingar* (-gar'), on the Royal Canal, is noted for its great cattle and wool markets. *Athlone*, on the Shannon, the principal military station in the west of Ireland. *Longford*, on the Camlin, a thriving little town; near it was born Oliver Goldsmith in 1728. *Athy* (A-thi'), on the Barrow, has considerable trade in corn, butter, and malt. *Maynooth*, 15 miles W. of Dublin, is the seat of a Roman Catholic College, subsidised by the British Government at an annual expense of £80,000. *Carlow*, 44 miles S.W. of Dublin, has a fine Roman Catholic cathedral and college, and a great trade in agricultural produce.

MUNSTER.—*Waterford*, on the Suir, 9 miles from its mouth, and the third

city in the province, is extensively engaged in commerce, the exports being valued at £2,000,000 annually. *Cork*, at the entrance of the Lee into the magnificent estuary named Cork Harbour, is the principal city in Munster, and in population second only to Dublin and Belfast. The manufactures are numerous, and shipbuilding is extensively carried on. It is the seat of one of the recently erected "Queen's Colleges." *Queenstown*, formerly called *Cove of Cork*, derives its present name from the visit of Queen Victoria in 1849. *Kinsale*, a fashionable watering-place, with valuable fisheries. *Youghal* (Yaw'-hal), at the mouth of the Blackwater, possesses a valuable salmon-fishery; here Sir Walter Raleigh first introduced the culture of the potato. *Fermoy*, on the Blackwater, has extensive infantry barracks. *Tralee*, near the head of Tralee Bay, is a considerable town, with a brisk trade in corn and provisions. *Killarney*, near one of the lakes of that name, celebrated for their enchanting scenery, and now accessible by rail from Dublin, is a favourite resort for tourists. *Dingle*, the westernmost town in the British Isles. *Ennis*, on the Fergus, contains a Gothic abbey, reckoned the finest in Ireland, and has quarries of fine black marble in the vicinity. *Clonmel* (-mel'), on the Suir, and partly in Waterford, is a considerable town, with an extensive export trade, and is the birthplace of Sterne, author of 'Tristram Shandy.' *Cashel*, once the capital of the kingdom of Munster, is an ancient archiepiscopal city, with a cathedral said to be the largest and most remarkable ecclesiastical ruin in Ireland. It stands on the summit of an eminence known as the "Rock of Cashel." *Thurles*, contains a Roman Catholic college and two episcopal palaces. *Limerick*, on the Shannon, at the head of its noble estuary, is a place of great antiquity, and in population the fourth city in the kingdom. Before the conquest of Ireland, it was the seat of the kings of Thomond. At the time of the Revolution it was the chief stronghold of the cause of James II.; but in 1691 capitulated to the troops of William III., after a heroic defence. It possesses a great export and import trade, and considerable manufactures of beautiful lace.

CONNAUGHT.—*Galway*, at the mouth of the Corrib, and on the north side of Galway Bay, is the principal city in the province, and the chief seaport of the west of Ireland. Railway communication with Dublin, 105 miles distant, has been established, and great efforts have been made to render it a principal station for the transatlantic passage to America. It is the seat of one of the "Queen's Colleges." *Tuam*, an episcopal city on the Clara, with a Roman Catholic college named St Jarleth, is the see of the primate of Connaught. *Ballinasloe* (-slo'), noted for its great cattle and wool fairs. *Sligo*, a considerable seaport town on the Garvogue, has a good colonial and foreign trade.

Capes.—*Mal'-in Head*, in Donegal, the northernmost point of the mainland; *Bengore Head* and *Fair Head*, in Antrim; *Howth Head*, in Dublin; *Wicklow Head*, in Wicklow; *Carnsore Point*, in Wexford; *Cape Clear*, on Clear Island, the southernmost point of Ireland; *Mizen Head* and *Crow Head*, in Cork; *Dunmore Head*, in Kerry, the westernmost point of the mainland; *Kerry Head* and *Loop Head*, on either side of the estuary of the Shannon; *Slyne Head*, in Galway; *Ach'-il Head* and *Urris Head*, in Mayo; *Rossan Point* and *Bloody Foreland*, in Donegal.

Islands.—*Rath'-lin Island*, N. of Antrim; *Cape Clear Island*, S. W. of Cork; *Valentia Island*, W. of Kerry; *Arran Isles*, in Galway Bay; *Clare Island* and *Achil Island*, W. of Mayo; *Arranmore* and *Tory Island*, W. of Donegal.

Bays and Estuaries.—On the coast of Ulster are: *Don'-egal Bay*; *Loughs Swilly*, *Foyle*, *Belfast*, and *Strangford*; *Dundrum* and *Carlingford Bays*. On the coast of Leinster: *Dundalk Bay*, *Dublin Bay*, and *Wexford Haven*. In Munster are the Harbours of *Waterford*, *Dungarvon*, *Youghal*, *Cork*, and *Kinsale*, together with *Bantry Bay*, *Ken'-mare River*, *Dingle Bay*, and the estuary of the *Shannon*.

and in Connaught are the Bays of Galway, Clew, Blacksod, Killala, and Sligo.

Mountains.—The Irish mountains form an immense circular ring, separating the coasts from the great central plain. This ring, however, is not continuous, but consists of a number of isolated masses, none of which attain to any great elevation—Carran Tual, in Macgillicuddy's Reeks, county Kerry, 3404 feet, being the culminating point of the kingdom. Beginning at the S.E. corner of Ulster, and proceeding N. and W., the following are the principal ranges:—

Mourne Mountains, in Down, between the Newry and Lagan, 2778 feet.

Glenocum Mountains, in Antrim, between the Lagan and Bann, 1810 feet.

Carntogher Mountains, in Londonderry, between the Bann and Foyle, 2228 feet.

Mountains of Donegal, between the Foyle and the Atlantic, 2236 feet.

Nepin-Beg Mountains, in Mayo, between the Moy and W. coast, 2638 feet.

Mountains of Connemara, from Clew Bay to Galway Bay, and between the Corrib and W. coast, 2679 feet.

Clare Mountains, between Galway Bay and the Shannon, 1746 feet.

Mount Brandon, between Tralee Bay and Dingle Bay, 3119 feet.

Macgillicuddy's Reeks, in Kerry, between Dingle Bay and Kenmare River, 3404 feet.

Muskerry Mountains, *Bogra Mountains*, and *Neagle Mountains*, in Cork, between the basins of the Blackwater and Lee, 2234 feet.

Galteemore, *Knockmelledown*, and *Commeragh Mountains*, in Tipperary and Waterford, between the Blackwater and Suir, 3007 feet.

Blackstairs Mountains, in Wexford, between the Barrow and the Slaney, 2409, feet.

Mountains of Wicklow, between the Slaney and Liffey, 3039 feet.

Slieve Bloom Mountains, in the interior of the great plain, separate the basin of the Shannon from that of the Barrow and Suir, 1691 feet.

Table of Rivers and Towns.—All the towns of Ireland containing 5000 inhabitants and upwards will be found in the following table, printed in Roman letters, while those under that population, and above 2500, are distinguished by *Italic* characters. We begin at the capital, then proceed northwards along the coast. (See p. 43.)

Basins inclined to the Irish Sea.

<i>Rivers.</i>	<i>Towns.</i>
Liffey,.....	DUBLIN, <i>Naas.</i>
Boyne,	<i>Drogheda, Navan, TRIM.</i>
Blackwater, <i>l</i>	<i>Navan, Kells.</i>
Dee,	<i>Ardee.</i>
Glyde, <i>l</i>	<i>Carrickmacross.</i>
Castleton,.....	DUNDALK.
Newry,	Newry.

Basins inclined to the Irish Sea (continued).

<i>Rivers.</i>	<i>Towns.</i>
Lough Strangford, ...	Downpatrick, Newtown-Ards.
Belfast Lough and } River Lagan,	Bangor, Carrickfergus, BELFAST, Lisburn.
Lough Larne,	
	Larne.

Basins inclined to the Atlantic.

Bann,	Coleraine, Lurgan, Portadown, Banbridge.
Main,	Randalstown.
Braid, l	Ballymena.
Ballinderry, l	Cookstown.
Blackwater, l	Dungannon.
Callan,	ARMAGH.
Ulster Canal,	MONAGHAN.
Foyle,	LONDONDEERRY, LIFFORD, Strabane.
Roe,	Newtown-Linavady.
Mourne,	Strabane, OMAH.
Erne,	Ballyshannon, ENNISKILLEN, CAVAN, n.
Garvogue,	SLIGO.
Moy,	Ballina.
Deel, l	Crossmolina.
Castlebar,	CASTLEBAR.
Clew Bay,	Westport.
Corrib,	GALWAY.
Clare, l	Tuam.
Cooter,	Gort, Loughrea.
Shannon,	Kilrush, LIMERICK, Athlone, CARRICK ON-SHANNON.
Fergus,	ENNIS.
Deel, l	Rathkeale.
Maig, l	Charleville.
Nenagh, l	Nenagh.
Lower Brosna, l ...	Birr, Roscrea.
Brosna, l	MULLINGAR.
Cloddagh, l	TULLAMORE.
Suck,	Ballinasloe, ROSCOMMON.
Camlin, l	LONGFORD.
Boyle,	CARRICK-ON-SHANNON, Boyle.
Tralee Bay,	TRALEE.
Dingle Bay,	Dingle.
Laune, l	Killarney.

Basins inclined to the Irish Sea (continued).

Ilenc,	Skibbereen.
Clonakilty Bay,	Clonakilty.
Bandon,	Kinsale, Bandon.
Cork Harbour and } River Lee,	Queenstown, CORK, Macroom, n.

Basins inclined to the Irish Sea (continued).

<i>Rivers.</i>	<i>Towns.</i>
Blackwater,	Youghal, Fermoy, Mallow.
Dungarvan Bay,	Dungarvan.
Suir,	WATERFORD, Portlaw, Carrick-on-Suir, CLONMEL, Cahir, Cashel, Thurles, Templemore.
Arra,	Tipperary.
Barrow,	New Ross, CARLOW, ATHY, MARYBOROUGH, Mountmellick.
Nore,	KILKENNY.
Slaney,	WEXFORD, Enniscorthy.
Bann, l.	Gorey.
Avoca,	Arklow.
Vartry,	WICKLOW.
Bray,	Bray.
Dublin Bay,	Kingstown.

Lakes.—The lakes of Ireland, called *loughs*, are numerous, and cover an area of 984 miles. Lough Neagh, the largest lake in the British Isles, occupies 153 square miles of surface. The other principal loughs, arranged in the order of the river-basins in which they occur, are the following :—

<i>River Basin.</i>	<i>Loughs.</i>
Shannon,	Derg, Ree, Boffin, and Allen, all in the line of the main river; Ennel and Owel, on the Brosna; Dereveragh and Sheelin, on the Inny; Key and Gara, on the Boyle.
Corrib,	Corrib and Mask, in Galway.
Moy,	Conn, in Mayo.
Erne,	Erne, Oughter, Gowna in S.W. of Ulster.
Bann,	Neagh, chiefly in Antrim.
Laune,	Lakes of Killarney, in Kerry—three in number.

For the CLIMATE, MINERALS, BOTANY, AGRICULTURE, ZOOLOGY, and ETHNOGRAPHY of Ireland, see under "British Isles," pp. 32-34.

SPAIN AND PORTUGAL.

Boundaries.—The Spanish Peninsula, consisting of the kingdoms of Spain and Portugal, comprises the entire south-west angle of the Continent, having on the N. France and the Bay of Biscay; W.

and S.W., the Atlantic and Strait of Gibraltar; S.E. and E., the Mediterranean. Lat. $36^{\circ} 1' - 43^{\circ} 45' N.$: lon. $9^{\circ} 32' W.$ — $3^{\circ} 20' E.$

Madrid, near the centre of the Peninsula, is on the same parallel of latitude as Naples, Bokhara, Pekin, Great Salt Lake City, and New York; and on the same meridian as Edinburgh, Exeter, L'Orient, Ivory Coast, and St Helena. The form of the Peninsula is compact, and somewhat square; greatest length, from Cape St Vincent to Cape Creux, 650 miles; breadth, from Cape Ortegal to Cape de Gata, 525 miles. Surrounded on all sides except the N.E. by the ocean, the seamargin is very large, amounting to no less than 2300 miles, of which 1800 belong to Spain and 500 to Portugal; but the ocean nowhere penetrates the land very deeply, and large portions of the interior are situated at a remote distance from the coast.

Area and Population.—The area of the continental portion of Spain is 176,955 square miles, or twice the size of Great Britain; while that of Portugal is 35,268 square miles, or a little more than the area of Ireland. The population of Spain in 1867, including the Balearic Isles and the Canaries, was estimated at 16,641,980; while that of Portugal in the same year, including the Azores and Madeira, amounted to 4,360,974. Thus, while the area of the entire Peninsula is $1\frac{1}{2}$ times the size of the British Isles, its population is considerably less than that of England and Wales.

Political Divisions.—Spain was formerly divided into fourteen *districts*,* several of which were named kingdoms; but in 1833 these were subdivided into forty-nine *provinces*, most of which bear the names of their respective capitals.

SEVEN NORTH-WESTERN PROVINCES.

Guipuzcoa.—Tolosa 7 (Orria), San Sebastian 19 (Urumea).

Biscaya.—Bilbao 15 (Nervion).

Alava.—Vitoria 12 (Zadorra, *aff.* Ebro).

* The following is a list of the old provinces or districts, with their capitals, and of the new provinces into which the former have been divided, commencing at the S.W. frontier of France:—

Old Provinces.	Capitals.	New Provinces.
Vascongadas or } Basque Provs. } Asturias	Bilbao Oviedo	Guipuzcoa, Biscaya, Alava. Oviedo.
Galicia {	Santiago de } Compostella }	Lugo, Coruña, Pontevedra, Orense.
Leon	Leon	Leon, Zamora, Salamanca.
Estremadura	Badajos	Caceres, Badajos.
Andalucia	Seville	Seville, Cordova, Jaen, Huelva, Cadiz.
Granada	Granada	Granada, Almeria, Malaga.
Murcia	Murcia	Murcia, Albacete.
Valencia	Valencia	Alicante, Valencia, Castellon-de-la-Plana.
Catalonia	Barcelona	Tarragona, Barcelona, Gerona, Lerida.
Aragon	Zaragoza	Huesca, Zaragoza, Teruel.
Navarra	Pamplona	Navarra.
Old Castile	Burgos	Santander, Logrona, Burgos, Palencia, Valladolid, Soria, Segovia, Avila.
New Castile	Madrid	Madrid, Guadalaxara, Cuenca, Toledo, Ciudad Real.

Santander.*—Santander 19 (Miera).

Oviedo.—Oviedo 10 (Ovia).

Lugo.—Lugo 7 (Minho).

Coruña.—Coruña 19, Ferrol 16 (W. coast), Santiago de Compostella 29 n. (Sar).

SEVEN WESTERN PROVINCES.

Pontevedra.—Pontevedra 5 (W. coast).

Oranxe.—Orense 5 (Minho).

Leon.—Leon 6 (Bernesga, *sub-aff.* Douro).

Zamora.—Zamora 10 (Douro), Benevente 12 (Esla).

Salamanca.—Salamanca 15 (Tormes, *aff.* Douro).

Caceres.—Caceres 12 (Caceres, *sub-aff.* Tagus).

Badajos.—Badajos 12, Don Benito 15 (Guadiana).

EIGHT SOUTHERN PROVINCES.

Seville.—Seville 152 (Guadalquivir), Ecija 24 (Genil).

Cordova.—Cordova 160 (Guadalquivir), Lucena 17 n. (Cabra).

Jaen.—Jaen 17, Ubeda 14 (Jaen, *aff.* Guadalquivir).

Huelva.—Huelva 7 (Odiel), Palos (coast).

Cadiz.—Cadiz 72 (Isle of Leon), San Lucar 16 (Guadalquivir), Puerto Santa Maria 18, Xeres de la Frontera 33 (Guadalete), Chiclana 21 (Lerío).

Malaga.—Malaga 113 n., Antequera 17 (Guadaljorce).

Granada.—Granada 100, Loja 15 (Genil).

Almeria.—Almeria 18 (Almeria).

SEVEN EASTERN PROVINCES.

Murcia.—Murcia 109 (Segura), Lorca 40 (Sangonera), Cartagena 33 (coast).

Albacete.—Albacete 11 n., Chinchilla 12 n. (Guadarmina, *aff.* Guadalquivir).

Alicante.—Alicante 19 (coast), Orihuela 18 (Segura), Elche 18 (Elche), Alcoy 27 (Alcoy).

Valencia.—Valencia 145 (Guadalaviar), Alcira 13 (Jucar).

Castellon-de-la-Plana.—Castellon-de-la-Plana 17 (Mijares).

Tarragona.—Tarragona 13, Reus 25 n. (Francoli), Tortosa 26 (Ebro).

Barcelona.—Barcelona 252 (Besos), Mataro 13 (coast).

SIX NORTH-EASTERN PROVINCES.

Gerona.—Gerona 8 (Ter), Olot 12 (Fluvia).

Lerida.—Lerida 17 (Segre, *aff.* Ebro), ANDORRA† (Balira).

Huesca.—Huesca 9 (Isuela, *aff.* Ebro).

Zaragoza.—Zaragoza or Saragossa 82 (Ebro).

Teruel.—Teruel 7 (Guadalaviar).

Navarra.—Pamplona or Pampeluna 11 (Agra, *sub-aff.* Ebro).

* The following rules will assist the pupil in pronouncing Spanish names:—
c before e and i, and s, have the sound of *th* in English *thin*; *ch*, like *ch* in *church*;
d between two vowels, like *th* in *this*; *g* before e and i, s before a vowel, and *j*
in all positions, have a strong guttural sound, like *ch* in *loch*; *k* is always silent;
ll and ñ are liquid sounds, resembling our *ll* and *n* in *billiards*, *onions*; *s*, same
as *s* in English *chase*; *th* = *t* or *th* in *Thames*.

Vowels: *a* = *a* in *far*; *e* = *a* in *ais*; *i* and *y* = *i* in *machine*; *u* = *u* in *rule*; *o*
and *oy* = *i* in *pine*; *au*, same as *ou* in *hour*.

† Capital of a small republic of same name, the independence of which dates
from the time of Charlemagne.

TWELVE CENTRAL AND TWO INSULAR PROVINCES.

Burgos.—Burgos 16 (Arlanzon, *aff.* Douro).
Logroño.—Logroño 7 (Ebro).
Palencia.—Palencia 11 (Carrion, *sub-aff.* Douro).
Valladolid.—Valladolid 21 (Pisuerga, *aff.* Douro).
Soria.—Soria 3 (Douro).
Segovia.—Segovia 13 (Eresma, *aff.* Douro).
Ávila.—Ávila 5 (Adaja, *aff.* Douro).
Madrid.—Madrid 332 (Manzanares, *sub-aff.* Tagus).
Guadalaxara.—Guadalaxara 5 (Henares, *sub-aff.* Tagus).
Cuença.—CUENÇA 6 (Xucar).
Toledo.—Toledo 15 (Tagus).
Ciudad Real.—Ciudad Real 8 n. (Guadiana), Almaden 9 n. (Guadalmes).
Balearic Isles.—Palma 40 (Majorca), Port Mahon 13 (Minorca).
Canary Isles.—Santa Cruz 9 (Teneriffe), Las Palmas 17 (Grand Canary).

Descriptive Notes.—Spain, including the islands, contains one hundred and twenty towns above 10,000 inhabitants; twenty-one above 20,000; ten above 50,000—viz., Cadiz, Saragossa, Seville, Cordova, Malaga, Grenada, Murcia, Valencia, Barcelona, Madrid, the last eight of which are above 100,000. The Southern Provinces are by far the most populous in the kingdom, containing a half of the whole number of towns above 50,000 inhabitants; while the Western and Central Provinces, situated in the elevated table-land, are the least populous.

San Sebastian, a strongly-fortified seaport town, and the most important place in the Basque Provinces, was taken by storm by the British from the French in 1813. *Bilbao*, the principal port in the north of Spain, and the great emporium of Spanish wool for exportation. *Vitoria*, celebrated for the great victory gained by the Duke of Wellington over the French in 1813. *Santander*, sacked by the French in 1808, is a commercial town, with productive iron-mines in the vicinity. *Coruña*, whence the Spanish Armada set sail for the conquest of England in 1588: it contains the tomb of Sir John Moore, who fell in the vicinity in the hour of victory in 1809. *Ferrol*, one of the three principal arsenals of Spain. *Santiago de Compostella*, the seat of a flourishing university, and of a magnificent cathedral dedicated to St James the Elder, the patron saint of Spain. *Salamanca*, the seat of the most ancient and famous university of Spain, now greatly decayed: here the French were defeated by Wellington in 1812. *Badajoz*, a strongly-fortified city on the Guadiana, repeatedly taken and retaken in the Peninsular War. *Seville*, one of the most ancient cities in Europe—the capital of Spain under the Gothic dynasty, and afterwards of Andalusia—was long the chief residence of the Spanish monarchs; it contains the finest Gothic cathedral in the kingdom, and one of its principal universities. *Cordova*, once the capital of the Caliphate of the West, and afterwards of the kingdom of Cordova, was at a later period noted for its manufacture of a sort of leather called *cordovan*. *Cadiz* (anc. Gades), a large fortified city on the Isle of Leon, is the principal commercial city in the kingdom, and the centre of the trade in sherry wine, so named from *Xeres*, a town a few miles inland, where it is chiefly made. *San Lucar*, the place from which Magelhaens started on the first circumnavigation of the globe in 1509. *Malaga*, a large commercial city, engaged in the exportation of wines, rasins, and other fruits. *Granada*, the ancient metropolis of the Moors in Spain, from whom it was taken by Ferdinand and Isabella in 1492, is a large and populous city at the confluence of the Genil and Darro. *Murcia*, a large city on the Segura, with manufactures of nitre and gunpowder, and a richly-decorated cathedral. *Cartagena* or *Cartagena*, a very ancient city, founded by a Carthaginian colony B.C. 242, possesses the best harbour in the Mediterranean, and contains the chief naval arsenal of Spain. *Valencia*, a large manufacturing city near the mouth of the Guadalquivir, is noted for its silks, and contains a flourishing university. *Barcelona* (anc. *Barcelno*), the second largest city of Spain, founded B.C. 200, has for ages been a place of great importance; it contains the former palace of

the kings of Aragon, a university, several public libraries, and is largely engaged in trade and manufactures. *Zaragoza* or *Saragossa* (Caesarea Augusta), an ancient and populous city on the Ebro, and the only place of importance in the North-Eastern Provinces, contains a university, a fine cathedral, and is memorable for its gallant defence against the French in 1809. *Pamplona*, an important military station, with a fortress taken from the French by the British in 1813. *Burgos*, once a highly-flourishing city, is now chiefly celebrated for its fine cathedral. *Valladolid*, now much decayed from its former importance, contains a celebrated university; here Columbus died in 1506. *Segovia*, noted for its magnificent Roman aqueduct of 161 arches. *Madrid*, the capital of Spain, occupies an elevated site in the midst of a barren plain 2200 feet above the sea, and far from any navigable river: it is about 8 miles in circuit, contains a third of a million inhabitants, and is reckoned very unhealthy, owing to the great inequalities of temperature. *Toledo* (Toletum), said to have been founded by Jews who had fled from their country when Jerusalem was taken by Nebuchadnezzar, was the capital of Spain under the Visigoths, and was long famous for the manufacture of sword-blades. *Almaden*: near it are valuable quicksilver-mines, the most ancient in the world. *Palma*, a fortified city in Majorca, has in its vicinity a huge palace formerly occupied by the Inquisition. *Santa Cruz*, capital of the Canary Islands, has an export trade in wine.

PORTUGAL is divided into six provinces, without including the Azores and Madeiras.

Minho.—Braga * 20 (Ria d'Este), Oporto 89 (Douro).
Tras-os-Montes.—Bragança 5 (Sabor), Chaves 5 (Tamego).
Beira.—Coimbra 18 (Mondego), Ovar 10 (Vouga), Lamego 9 (Corga),
 Castello-Branco 6 (Veressa).
Estremadura.—LISBON 224 (Tagus), Setubal or St Ubes 13 (Sadao).
Alemtejo.—Evora 12 (Xamara aff. Sadao), Elvas 11 (Guadiana).
Algarve.—Faro 8 (Valfermosa).
Azores.—Angra 12 (I. Terceira), Ponta Delgada 16 (I. San Miguel).
Madeiras.—Funchal 20 (I. Madeira).

Descriptive Notes.—Portugal, including the islands, contains ten towns of above 10,000 inhabitants; three above 20,000; and two (Lisbon and Oporto) above 50,000.

Braga, a considerable town, with manufactures of firearms, jewellery, cutlery, and hats. *Oporto*, a large commercial city at the mouth of the Douro, with extensive silk-factories; but its main dependence is on the export of wine, white and red, chiefly the latter, which has the name of *port*. *Bragança*, a small town on the Sabor, which gives title to the present royal family of Portugal. *Chaves*, a fortified town, with hot saline springs. *Coimbra*, on the Mondego, and in the rainiest locality in Europe, is the seat of the only university in the kingdom: near it *Busaco*, where Wellington defeated Massena in 1810. *Lisbon*, the capital of Portugal, on the right bank of the Tagus, near its mouth, is a handsome city, with upwards of a quarter of a million inhabitants. There are few important manufactures, except of jewellery and trinkets; and its commerce, which was once considerable, has greatly declined since the Portuguese colonies became independent. It was the birthplace of Camoens in 1524. *Setubal*, a flourishing seaport town, actively engaged in the wine trade. *Evora*, an ancient city, of Roman origin, with manufactures of hardware and leather. *Elvas*, a fortified city on the Spanish frontier, with the remains of a Moorish aqueduct. *Angra*, capital of the Azores,

* The vowels and diphthongs are the same as in Spanish; but *ao* is nasal, and like *oung*, as in *Macao* (*Ma-coung*); while *ei* and *oi* usually form two syllables, as in *Beira*, *Coimbra*. *ch* and *x* are equal to our *sh*; *g* and *j* are the same as in French, or like *s* in *pleasure*; *h* is always silent, as in Spanish, but *th* and *nh* are liquid like *ll* and *ñ* in Spanish, or as *ll* and *n* in *billiards*, *onion*; *m* and *n* at the end of a syllable are frequently nasal, as in *Alemtejo* (*Al-eng-té-sho*); *r* is sounded very strongly, as in Spanish and other continental languages.

is a fortified seaport, and contains a military college. *Funchal*, capital of Madeira, is busily engaged in the manufacture of Madeira wine.

Capes.—Ortegal and Finisterre, in Galicia; Roca and Espichel, in Estremadura; St Vincent and Santa Maria, S. of Algarve; Trafalgar and Tarifa Point, S. of Seville; Gata, in Granada; Palos, in Murcia; St Martin, in Valencia; Creux, in Gerona.

Cape Roca (lon. $9^{\circ} 32' W.$) is the most western point of the continent of Europe. *St Vincent*, off which Sir John Jarvis signally defeated the Spanish fleet in 1797. *Trafalgar*, off which Lord Nelson defeated the combined French fleets in 1805. *Tarifa Point*, the southernmost point of the Continent.

Islands.—Balearic Isles (Majorca, Minorca, Iviza, and Formentera), E. of Valencia, and Canary Islands, 60 miles S.W. of Morocco, belong to Spain; the Azores, 800 miles W. of Portugal, and the Madeira Isles, 660 miles S.W. of Cape St Vincent, belong to Portugal.

The *Balearic Isles* have an area of 1753 square miles, and a population, in 1857, of 262,893. The climate is temperate and healthy, and the soil fertile, yielding olives, wine, fruits, saffron, and flax. The *Canaries* have an area of about 4000 square miles; population, 234,046. They are of volcanic origin; some of the mountains attain a great elevation, especially the Peak of Teneriffe, which is 12,182 feet high. The principal productions are wine, oil, grain, sugar-cane, and fruits. The *Azores*, also called the *Western Islands*, are also volcanic, with steep and rugged coasts, and abound in deep ravines and lofty mountains; the peak of Pico is 7613 feet high. Climate temperate and healthy, but subject to violent earthquakes. Principal products—wines, all kinds of grain and pulse, oranges, sugar-cane, coffee, and tobacco. Area, 700 square miles; population, in 1857, 241,646. The island of Madeira has a peculiarly genial climate, and it is resorted to by invalids afflicted by pulmonary diseases.

Bays and Straits.—Bay of Biscay, N. of Spain; Ria de Betanzos and Arosa Bay, W. of Galicia; St Ubes Bay, W. of Estremadura; Lagos Bay, S. of Algarve; Bay of Cadiz, W. of Cadiz; Strait of Gibraltar, between Spain and Africa; Almeria Bay, S.E. of Granada; Bay of Rosas, E. of Catalonia.

The Strait of Gibraltar derives its name from the impregnable fortress, belonging to Britain, which guards it on the north side. The rock on which the fortress stands is 1600 feet high, consists of a greyish marble, and is everywhere fortified by works of great strength and extent. It was ceded to Spain by the Moors in 1462; taken by the English, under Sir G. Rooke, in 1704; and unsuccessfully besieged by the united French and Spanish fleets in 1782. The town of Gibraltar, also belonging to Britain, contains a miscellaneous population of 15,000, exclusive of the garrison, which is always considerable.

Mountains.—Including the Pyrenees, there are five important mountain-ranges in the Peninsula, all of which have a general direction of W. to E. The two loftiest ranges form respectively the northern and southern limits of the elevated plateau which occupies the whole of the interior of Spain.

The *Pyrenees*, with the mountains of Asturias, which form their western continuation extend from Cape Creux in Catalonia, to Cape Finisterre in Galicia, and separate the basin of the Garonne, Adour, and Bay of Biscay, from the basins of the Ebro and Douro: highest summits—Mount Maladetta (near the centre of the Pyrenees), 11,168 feet; Sierra Peñamarella, in Leon, 10,000 feet.

Mountains of Castile, or central chain, separating the basins of the Douro and Tagus: Sierra Gredos, between Old Castile and Estremadura, 10,552 feet; Sierra d'Estrella, in Beira, 7524 feet.

Mountains of Toledo, extending from Cape Espichel in Portugal, to the S.W. of Aragon, and separating the basins of the Tagus and Guadiana: Sierra de Guadalupe, 5115 feet.

Sierra Morena, from Cape St Vincent to Cape St Martin, and separating the basins of the Guadiana and Guadalquivir in the W., from those of the Xucar and Segura in the E.: Mount Aracena, in Seville, 5550 feet; Sierra Monchique, in Algarve, 4080 feet.

Sierra Nevada, from the Rock of Gibraltar to Cape Palos, and between the basin of the Guadalquivir and the Mediterranean: highest summit, Cerro Mulhacen, in Granada, 11,663 feet, forming the culminating point of the Peninsula.

Table of Rivers and Towns.—The following table embraces all the rivers and towns of the Peninsula enumerated under the "Political Divisions." Capitals of provinces are distinguished by SMALL CAPITALS; towns above 10,000 inhabitants by Roman letters; and smaller towns by *Italics*.—(See p. 43.)

Basins inclined to the Atlantic.

<i>Rivers.</i>	<i>Towns.</i>
Urumea,.....	San Sebastian.
Orria,	TOLOSA.
Nervion,.....	BILBAO.
Miera,.....	SANTANDER.
Nalon,.....	OVIEDO, n.
W. Co. Galicia,.....	Ferrol.
Mero,	CORUÑA.
Ulla,	Santiago de Compostella, n.
Lerey,.....	PONTEVEDRA.
Minho,	ORENSE, LUGO.
Ria d'Este,.....	BRAGA.
Douro,	Oporto, ZAMORA, SORIA.
Tamego,.....	Chaves.
Corga,.....	Lamego.
Sabor,	BRAGANÇA.
Tormes, l	SALAMANCA.
Esla,	Benevente.
Bernesga,	LEON.
Pisuerga,	VALLADOLID.
Carrion,	PALENCIA.
Arlanzon, l	BURGOS.
Adaja, l	AVILA.
Eresma,	SEGOVIA.
Vouga,	Viséu.
Mondego,	COIMBRA.
Tagus,.....	LISBON, TOLEDO.
Veresa,	CASTELLO-BRANCO.
Salor, l	CACERES, n., on an affluent.

Basins inclined to the Atlantic—(continued.)

<i>Rivers.</i>	<i>Towns.</i>
Xarama,	MADRID, n.
Manzanares,	MADRID.
Henares, l	GUADALAXARA.
Sadao,	Setubal or St Ubes.
Xamara,	EVORA.
Valfermosa,	FARO.
Guadiana,	Elvas, BADAJOS, Don Benito, CIUDAD REAL, n.
Odiel,	HUELVA.
Tinto,	Palos.
Guadalquivir,	San Lucar, SEVILLE, CORDOVA, Ubeda.
Genil, l	Ecija, Loja, GRANADA.
Cabra,	Lucena.
Guadarmina,	ALBACETE, n., Chinchilla, n.
Jaen, l	JAEN.
Guadalete,	CADIZ, n., Puerto Santa Maria, Xeres de la Frontera.
Lerio,	Chiclana.

Basins inclined to the Mediterranean.

Strait of Gibraltar, ...	Algeciras, Gibraltar.
Guadaljorce,	MALAGA, n., Antiquera.
Almeria,	ALMERIA.
Co. of Murcia,	Cartagena.
Segura,	Orihuela, MURCIA.
Elche, l	Elche.
Sangonera,	MURCIA, Lorca.
Co. of Alicante,	ALICANTE.
Alcoy,	Alcoy.
Xucar,	Aloira, CUENCA.
Guadalaviar,	VALENCIA, TERUEL.
Mijares,	Castellon-de-la-Plana.
Ebro,	Tortosa, ZARAGOZA, LOGROÑO.
Segre, l	LERIDA.
Cinca,	Fraga.
Isuela,	HUESCA.
Balira,	ANDORRA (Republic of same name).
Aragon, l	Sanguesa.
Agra,	PAMPELUNA.
Zadorra, l	VITORIA.
Francoli,	TARRAGONA, Reus.
Besos,	BARCELONA.
Co. of Catalonia,	Mataro.
Ter,	GERONA.
Fluvia,	Olot.

Lakes.—There are no lakes of importance in either Spain or Portugal; but in the province of Ciudad Real are three small lakes, one of which, Lake Real, forms the source of the Guadiana, while the other two, a little farther down the river, are termed Los Ojos

de Guadiana ("the Eyes of the Guadiana.") Albufera de Valencia, on the E. coast of Spain, is a large salt-water lagoon.

Climate.—Owing to the great size of the Peninsula, and the difference of elevation between the coast regions and the interior, the climate is very different in different parts. Thus in Portugal and the N. W. provinces of Spain, the quantity of rain that falls annually is usually very great; while on the high central plateau, which has an average elevation of 2700 feet above the sea, great heat and drought prevail in summer, and severe cold in winter. In the western provinces the climate is mild, but variable; in the S. W. it is nearly African; while in the S. E. an almost perpetual spring prevails. Snow is rare in the south of the Peninsula, but the tract around Coimbra is one of the rainiest localities in Europe.

Minerals.—The mineral treasures of the Peninsula are remarkable for their variety and abundance, but little has been done to turn them to practical account. In the Pyrenees are found immense deposits of iron, copper, and lead; coal in the mountains of Asturias and Majorca; silver in Seville; quicksilver at Almaden (in Ciudad-Real); cobalt in Galicia; iron and coal in Portugal; rock-salt in Cordova; tin, zinc, antimony, and arsenic in numerous localities.

Botany and Agriculture.—The flora of the Peninsula is wholly embraced within the *third* Botanical Region of naturalists, described above under Europe (p. 30). The elevated region of the interior consists for the most part of arid, dreary, and treeless plains; but the lower grounds abound with the choicest vegetable productions, as the vine, olive, orange, fig, citron, date, sugar-cane, tobacco, indigo, stone-pine, water-melon, rice, and the cotton plant. Agriculture is in a very backward state, and only a small portion of the surface is under cultivation. The corn crop is frequently insufficient for home consumption, but large quantities of wine and fruits are exported, especially from Xeres, Malaga, and Oporto. Vast numbers of Merino sheep are reared for the sake of their wool, which is the finest in Europe.

Zoology.—The fauna of the Peninsula embraces 67 mammals, 294 birds, and 51 reptiles. The Barbary ape, a quadrumanous animal, inhabits the rock of Gibraltar—the only locality in Europe where any species of monkey is now found in a wild state. The wolf, bear, wild boar, chamois, and ibex are found in the Pyrenees; the marten in Biscay; the buffalo, lynx, fox, wild-cat, and weasel in many places. The Arabs, when in possession of the country, stocked it with their finest breeds of horses; the other domesticated animals are mules, asses, oxen, sheep, swine in vast numbers, and multitudes of goats.

Ethnography.—The people of the Peninsula belong for the most part to the Greco-Latin race, the blood, however, being largely intermingled with Celtic, Carthaginian, Gothic, and Moorish elements. The Iberians, a Celtic race, from whom the Basques of the north-west have descended, were probably the first inhabitants.

The south of Spain was colonised by the Phenicians and Carthaginians in the third century before our era. About a century afterwards the Romans subdued the whole Peninsula. Various Gothic tribes overran the country in the beginning of the fifth century. The Moors drove the Goths to the northern mountains in A.D. 712, and retained possession of the country till 1492, when they were finally expelled by the Christians under Ferdinand and Isabella.

LANGUAGES.—The Spanish and Portuguese languages (both of them descendants of the ancient Galician, a Greco-Latin tongue), though at one time closely-allied dialects, have at length come to differ considerably from each other. The former, which is found in its purest form in Castile, is manifestly descended from the Latin, though with a considerable admixture of Gothic and Arabic vocables. In addition to the greater part of the Peninsula, the Balearic Isles, and the Canaries, it is spoken by the white population of Mexico, Central America, Cuba, Porto Rico, Spanish S. America, the Philippine Islands, and other eastern possessions of Spain. The Portuguese, a twin-sister of the Spanish, but containing a class of words (probably of Berber origin) not found in the Spanish vocabulary, is spoken in Portugal, Madeira, the Azores, Brazil, India, and the other colonial possessions of the kingdom.

RELIGION AND EDUCATION.—The Roman Catholic has for ages been almost the sole religion in either Spain or Portugal, though in the latter country a very limited amount of toleration is enjoyed by the Jews and some Protestant denominations. In both countries great changes, however, have recently taken place in ecclesiastical affairs. The monks and friars, formerly so numerous in both countries, have been driven from their splendid mansions, their estates being confiscated to the Crown, and the secular clergy are now entirely dependent on the State. The education of both kingdoms is in a lamentably deficient state. In Portugal only 15 per cent of the young are at school; while in Spain not more than one-tenth of the population can read and write. There is only one university (that of Coimbra) in Portugal, but in Spain there are ten, the chief of which are those of Salamanca, Valencia, Zaragoza, and Valladolid. Neither Spain nor Portugal can boast of many names that have acquired a European celebrity. (See 'Manual of Modern Geography,' pp. 226, 227.) In regard to *national character*, the Spaniards are grave, stately, and formal in manners; frugal and temperate in diet; extremely indolent in disposition, but of an enthusiastic temperament, which at one time prompts them to feats of chivalry, but at others to the perpetration of revolting atrocities. The Portuguese are represented as dignified, polite, and temperate, but excessively filthy both in their houses and persons. In indolence, cruelty, pride, and bigotry they fully equal, if they do not surpass, the Spaniards—there being no country in Europe where morality and civilisation are at a lower ebb.

Government and Finance.—In both countries the Government consists nominally of a constitutional monarchy, with representative institutions, but civil and religious liberty are neither understood nor appreciated.

In 1861 the Spanish army numbered 233,000 men; the navy, 169 ships of war of all sizes, carrying about 1300 guns. The Revenue and Expenditure, both of which are rapidly increasing, are each about £20,000,000 sterling, and the Public Debt about £160,000,000. The Portuguese

Army, in 1862, amounted to 24,000 men; the Navy to 38 ships, with 294 guns; the Revenue to £3,000,000; the Expenditure to £4,000,000; and the Public Debt to £30,000,000 sterling.

Commerce and Manufactures.—Since the loss of their foreign possessions in America, the commerce of both countries has dwindled down to insignificance, notwithstanding the great extent of sea-board.

The exports from Spain in 1861 amounted to £9,000,000, and the imports to £13,000,000 sterling; while the exports from Portugal amounted to £4,000,000, and the imports to £5,000,000 sterling. The principal Exports from the Peninsula are fruits (especially grapes, lemons, oranges, almonds), wine, brandy, olive-oil, wool, mercury, lead, and salt; and the chief Imports, articles of colonial produce, dried fish, salted provisions, butter, cheese, rice, cotton and woollen goods, cutlery, glass, and building timber. The only manufacture in which the Peninsula excels is wine—especially sherry and port, the former deriving its name from Xeres, where immense quantities of it are made; and the latter from Oporto, the place from which the principal Portuguese wines are exported to England. The Spanish Government monopolises the manufacture of saltpetre, gunpowder, cannon and firearms, tobacco, and glass, and there are few others of any importance besides that of cork.

Inland Communication.—But a few years ago there was scarcely a single railway in the entire Peninsula; but in 1861 there were in Spain alone no fewer than 1500 miles in actual operation, with other 800 miles in course of construction, besides 82 miles in Portugal.

The construction of railways and canals is unusually expensive, the country being more intersected by mountain-chains than perhaps any other in Europe; and were it not that the original system of railway construction, which required a uniform level, had been departed from, long and uninterrupted lines would have remained impracticable. There are no canals in Portugal, but the rivers are more navigable than in Spain, where the Imperial Canal, along the right bank of the Ebro, with some others along the sides of the unnavigable rivers, are works of great utility.

Foreign Possessions.—Of the once magnificent colonial possessions of Spain and Portugal the following are all that remain:—

Spanish: Ceuta, Tetuan, &c., on the N. coast of Marocco; Fernando Po and Annabona, in the Gulf of Guinea; Cuba, Dominica (E. part of San Domingo), Porto Rico, and part of the Virgin Isles, in the West Indies; and part of the Philippine and Ladrone Isles, in Oceania: total area, 125,162 English square miles; population, 4,746,233.

Portuguese: Besides the Azores and Madeira (for which see under "Political Divisions"), to Portugal belong the Cape Verd Isles, portions of Senegambia, Angola, Benguela, and Mozambique, in Africa; St Thomas and Prince's Islands, in the Gulf of Guinea; Goa, Salsette, and Damaun, in Hindostan; Macao, in China; parts of Timor, Mindora, and Solor, in Malaysia. Area, 258,000 English square miles; population, 2,346,414.

FRANCE.

Boundaries.—France, one of the largest and most important countries of Western Europe, is bounded on its six sides as follows:—N.W., the English Channel, separating it from Great Britain; W., the Atlantic; S.W., the Pyrenees, separating it from Spain; S.E., the Mediterranean; E., Italy, Switzerland, and Alsace, from which it is separated by the Alps, Mount Jura, and the Vosges; N.E., the German portion of Lorraine, and Belgium. Lat. $42^{\circ} 20'$ — $51^{\circ} 6'$ N., lon. $4^{\circ} 49'$ W.— $7^{\circ} 30'$ E.

Chateauroux, capital of Indre, near the centre of the empire (lat. $46^{\circ} 50'$, lon. $1^{\circ} 44'$ E.) is nearly on the same parallel as Berne, Grätz, Odessa, Astrakhan, Lake Balkash, the N. extremity of Japan, mouth of the Oregon, the S. shore of Lake Superior, and Quebec; and nearly on the same meridian as Yarmouth, Calais, Barcelona, Algiers, and the capital of Dahomey. The form of the country is hexagonal and very compact; greatest length, from the W. coast of Finistère to Nice on the Italian frontier, nearly 700 miles; extreme breadth, from Givet in Ardennes to the mouth of the Bidassoa, 585 miles; coast generally low, but bold and irregular in the north-west, with an extreme length, including the larger sinuosities, of 1500 miles. This is a small extent of seaboard for so large a country; but the numerous navigable rivers, and the canals connecting them, make ample compensation for the deficiency.

Area and Population.—Omitting Haut Rhin, Bas Rhin, and Moselle, now ceded to Germany, the area is 204,926 square miles, or $1\frac{1}{3}$ times the size of the British Isles; while, in 1871, the population was 36,612,064, or one-fifth larger than that of the United Kingdom, giving 178 persons to each square mile.

Political Divisions.—Omitting Alsace and part of Lorraine, ceded to Germany in 1871, France is now divided into eighty-six *departments*, most of which have been named from some striking physical feature characterising them, as the existence of a large river, the confluence of two rivers, or proximity to a mountain-chain. Previous to the Revolution of 1789, the country was divided into thirty-four *provinces*, the names and capitals of which we append in a foot-note.* The eighty-five continental departments

* TABLE OF THE FORMER DIVISIONS OF FRANCE.

Old Provinces.	Capitals.	Corresponding Departments.
Alsace	Strasbourg	Haut Rhin, Bas Rhin.
Angoumois	Angoulême	Charente.
Anjou	Angers	Maine-et-Loire.
Artois	Arras	E. part of Pas-de-Calais.
Aunis	Rochelle	N.W. of Charente Inférieure.
Auvergne	Clermont	Puy-de-Dôme, Cantal.
Béarn	Pau	Basses Pyrénées.
Berry	Bourges	Cher, Indre.
Bourbonnais	Moulins	Allier.
Bourgogne	Dijon	Yonne, Côte-d'Or, Saône-et-Loire, Ain.
Bretagne	Rennes	Ille-et-Vilaine, Côtes-du-Nord, Finistère, Morbihan, Loire Inférieure.

may be arranged into seven contiguous groups, six of which are frontier groups, corresponding to the six sides of the country, and one central group.

FOURTEEN NORTH-WESTERN DEPARTMENTS.

Nord.*—Lille 155, Roubaix 65 n. (Deule, *sub-aff.* Scheldt), Tourcoing 38 n. (Lys), Valenciennes 23, Cambrai 21 (Scheldt), Douay 20 (Scarpe), Dunkirk 30 (Strait of Dover).

TABLE OF THE FORMER DIVISIONS OF FRANCE (*continued*).

Old Provinces.	Capitals.	Corresponding Departments.
Champagne	Troyes	Ardennes, Marne, Aube, Haute Marne.
Foix	Foix	Ariège.
Dauphiné	Grenoble	Hautes Alpes, Drôme, Isère.
Flandre	Lille	Nord.
Franche Comté	Besançon	Haute Saône, Doubs, Jura.
Gascogne, Guyenne	Auch, Bordeaux	Gironde, Dordogne, Lot, Aveyron, Tarn-et-Garonne, Lot-et-Garonne, Landes, Gers, Hautes Pyrénées.
Ile-de-France	Paris	Oise, Seine-et-Oise, Seine, Seine-et-Marne, S. of Aisne.
Languedoc	Toulouse	Haute Loire, Ardèche, Lozère, Gard, Hérault, Aude, Tarn, Haute Garonne.
Limousin	Limoges	Corrèze, S. of Haute Vienne.
Lorraine	Nancy	Moselle, Meuse, Meurthe, Vosges.
Lyonnais	Lyon	Loire, Rhone.
Maine	Le Mans	Mayenne, Sarthe.
Marche	Gueret	Creuse, N. of Haute Vienne.
Nivernais	Nevers	Nièvre.
Normandie	Rouen	Seine Inférieure, Eure, Calvados, Manche, Orne.
Orléanais	Orléans	Eure-et-Loir, Loir-et-Cher, Loiret.
Picardie	Amiens	Somme, E. of Pas-de-Calais, N. of Aisne.
Poitou	Poitiers	Vendée, Deux Sèvres, Vienne.
Provence	Aix	Bouches-du-Rhône, Var, W. of Alpes Maritimes, Basses Alpes, E. of Vaucluse.
Roussillon	Perpignan	Pyrénées Orientales.
Saintonge	Saintes	E. of Charente Inférieure.
Comté d'Avignon	Avignon	W. of Vaucluse.
Touraine	Tour	Indre-et-Loire.

* At the end of French words, *d, s, t, x, z*, are silent, as in Nord, Nîmes, Lot, Bordeaux (pronounced *Nôr, Neem, Lô, Bor-dô*).

ch is like English *sh*, as Rochelle, Chartres (*Ro-shell, Shar-tr*).

g before *e, i*, and *y*, and *j* in all positions, have the sound of *s* in treasure, as Ariège, Jura (*Ar-ri-ahé, Zhu'-ra*).

gn has the sound of *ni* in Spaniard, as Avignon, Boulogne (*Av-in'-yong, Bou-loing'*).

an, en, in, on, faintly resemble *ang, eng, ing, ong* in English, but must be learned from the teacher.

th is equal to our *t*, as Sarthe, pronounced *Sart*.

ç with a cedilla is used only before *a, o*, and *u*, and it then sounds like *s*, as Maçon, pronounced *Ma-song*.

a has two sounds, as in *mam-ma'*, but is never like *a* in make: *e*, when unaccented, is silent; *é*, with the acute accent, is like *e* in bed; *è*, with the grave accent, and *ê*, circumflex, has the sound of *e* in there.

ai and *ei* = *è*, grave; *au, eau*, and *caus* = *ô* in stone; *ou* = *oo* in mood.

Pas-de-Calais.—Arras 25 (Scarpe, *aff.* Scheldt), St Omer 22 (Aa), Calais 12, Boulogne 40 (Strait of Dover).
Somme.—Amiens 59, Abbeville 20 (Somme).
Oise.—Beauvais 14 (Terrein, *aff.* Oise).
Seine Inférieure.—Rouen 103, Le Havre 74, Elbeuf 17 (Seine), Dieppe 17 (Arques).
Eure.—Evreux 12 (Iton, *aff.* Eure).
Eure-et-Loir.—Chartres 18 (Eure, *aff.* Seine).
Calvados.—Caen 45 (Orne).
Orne.—Alençon 14 (Sarthe, *aff.* Loire).
Manche.—St Lo 9 (Vire), Cherbourg 37 (Divette).
Mayenne.—Laval 27 (Mayenne, *aff.* Loire).
Ille-et-Vilaine.—Rennes 49 (Vilaine).
Côtes-du-Nord.—St Brieuc 14 (Gouet).
Finistère.—Quimper 10 (Odet), Brest 80 (Elorn).

TEN WESTERN DEPARTMENTS.

Morbihan.—Vannes 13 (G. of Morbihan), L'Orient 38 (Blavet).
Loire Inférieure.—Nantes 114 (Loire).
Maine-et-Loire.—Angers 52 (*conf.* Sarthe and Mayenne), Saumur 14 (Loire).
Vendée.—Napoléon-Vendée 7 (Yon, *aff.* Lay).
Deux Sèvres.—Niort 18 (Sèvre Niortaise).
Charente Inférieure.—La Rochelle 16 (Coast), Rochefort 30 (Charente).
Charente.—Angoulême 21, Cognac 6 (Charente).
Gironde.—Bordeaux 194 (Garonne), Libourne 13 (Dordogne).
Dordogne.—Perigueux 13 (Isle, *aff.* Dordogne).
Lot-et-Garonne.—Agen 16 (Garonne).

FOURTEEN SOUTHERN DEPARTMENTS.

Landes.—Mont-de-Marsan 4 (Midouze, *aff.* Adour).
Basses Pyrénées.—Pau 16 (Gave de Pau, *aff.* Adour), Bayonne 18 (Adour).
Hautes Pyrénées.—Tarbes 14 (Adour).
Gers.—Auch 10 (Gers, *aff.* Garonne).
Haute Garonne.—Toulouse 127 (Garonne).
Tarn-et-Garonne.—Montauban 25 (Tarn, *aff.* Garonne).
Tarn.—Alby 13 (Tarn), Castres 20 (Agout).
Ariège.—Foix 4 (Ariège, *aff.* Garonne).
Pyrénées Orientales.—Perpignan 21 (Tet).
Aude.—Carcassonne 20, Narbonne 13 (Aude).
Hérault.—Montpellier 56 (Lez), Beziers 28 (Orbe), Cette 24 (Coast).
Gard.—Nîmes 60 (Vistre), Beaucaire 11 (Rhône).
Lozère.—Mende 11 (Lot, *aff.* Garonne).
Ardèche.—Privas 5 (Ouvèze, *aff.* Rhône), Annonay 13 (Cance).

SEVEN SOUTH-EASTERN DEPARTMENTS.

Bouches-du-Rhône.—Marseille 300 (Verne), Arles 23 (Rhône), Aix 21 (Arc).
Vaucluse.—Avignon 35 (Rhône), Orange 10 (Aigues).
Var.—Draguignan 9 (Artuby, *aff.* Argens), Toulon 77 (Coast).
Alpes Maritimes.—Nice 50 (Paglione), Grasse 11 n. (Siagne).
Basses Alpes.—Digne 5 (Bleone, *aff.* Durance).

Hautes Alpes.—Gap 9 (Lure, *aff.* Durance).
Drôme.—Valence 20 (Rhône).

TWELVE EASTERN DEPARTMENTS.

Haute Savoie.—Albertville 4 (Isère, *aff.* Rhône).
Savoie.—Chambery 16 (Leisse, *aff.* Savière), Annecy 9 (Fieran).
Isère.—Grenoble 40 (Isère), Vienne 25 (Rhône).
Rhône.—Lyon 324 (*conf.* Rhône and Saône).
Ain.—Bourg 12 (Reyssouse, *aff.* Saône).
Saône-et-Loire.—Macon 14, Chalons-sur-Saône 17 (Saône).
Jura.—Lons-le-Saulnier 9 (Vaillière, *sub-aff.* Saône).
Doubs.—Besançon 47 (Doubs, *aff.* Saône).
Haute-Saône.—Vesoul 6 (Drejon, *aff.* Saône).
Vosges.—Epinal 11 (Moselle, *aff.* Rhine).
***Haut Rhin.**—Colmar 21, Mulhausen 59 (Ille, *aff.* Rhine).
***Bas Rhin.**—Strasbourg 84 (Rhine).

TEN NORTH-EASTERN DEPARTMENTS.

***Moselle.**—Metz 57 (*conf.* Moselle and Seille).
Meurthe.—Nancy 50 (*conf.* Moselle and Meurthe), Lunéville 15 (Meurthe).
Meuse.—Bar-le-Duc 14 (Ornain, *aff.* Marne), Verdun 13 (Meuse).
Haute Marne.—Chaumont 6, Langres 11 (Marne).
Marne.—Chalons-sur-Marne 15 (Marne), Reims 61 (Vesle).
Ardennes.—Mezières 5, Sedan 16 (Meuse).
Aisne.—Laon 10 (Delette, *aff.* Oise), St Quentin 83 (Somme).
Seine-et-Marne.—Melun 10, Fontainebleau 10 (Seine).
Seine-et-Oise.—Versailles 44 (Seine).
Seine.—PARIS 1700, St Denis 26 (Seine).

TWENTY-ONE CENTRAL DEPARTMENTS.

Sarthe.—Le Mans 45 (Sarthe, *aff.* Loire).
Indre-et-Loire.—Tours 42 (*conf.* Loire and Cher).
Loir-et-Cher.—Blois 20 (Loire).
Loiret.—Orléans 51 (Loire).
Yonne.—Auxerre 14 (Yonne, *aff.* Seine).
Aube.—Troyes 36 (Seine).
Vienne.—Poitiers 29 (Clain, *aff.* Vienne), Châtellerault 12 (Vienne).
Indre.—Châteauroux 15 (Indre, *aff.* Loire).
Cher.—Bourges 30 (Auron, *aff.* Cher).
Nièvre.—Nevers 21 (Loire).
Côte d'Or.—Dijon 39 (Ouche, *aff.* Saône).
Haute Vienne.—Limoges 51 (Vienne, *aff.* Loire).
Creuse.—Gueret 5 (Creuse, *aff.* Vienne).
Allier.—Moulins 17 (Allier, *aff.* Loire).
Corrèze.—Tulle 11 (Corrèze, *sub-aff.* Dordogne).
Puy-de-Dôme.—Clermont-Ferrand 38 n. (Allier), Thiers 14 (Dore).
Loire.—Montbrison 8 n. (Loire), St Etienne 94 (Furens).
Lot.—Cahors 13 (Lot, *aff.* Garonne).
Cantal.—Aurillac 10 (Cère, *aff.* Dordogne).
Haute Loire.—Le Puy 15 (Loire).
Aveyron.—Rhodéz 10, Villefranche 10 (Aveyron, *aff.* Tarn).
Corsica.—Ajaccio 12, Bastia 16 (Island Corsica).

* Ceded to Germany in 1871.

Descriptive Notes.—France, since the cession of Alsace-Lorraine to Germany, contains eight towns of more than 100,000 inhabitants (Paris, Lyon, Marseille, Bordeaux, Lille, Toulouse, Nantes, Rouen); thirteen between 100,000 and 50,000 (St Etienne, Brest, Toulon, Le Havre, Roubaix, Amiens, Reims, Nîmes, Montpellier, Angers, Limoges, Nice, Nancy); and fifty between 50,000 and 20,000. The north of France is more populous than the centre and south, and contains a greater number of large towns. The most densely-peopled department is that which contains the capital, having nearly 10,000 inhabitants to the square mile; while the least populous is Basses Alpes, which has only about 60.

NORTH-WESTERN DEPARTMENTS.—*Lille*, a very strongly-fortified city on the Belgian frontier, and one of the chief seats of the cotton, linen, and woollen manufactures. *Roubaix*, *Turcoing*, and *Valenciennes* are also important manufacturing towns. *Cambray*, long noted for its cambrics. *Douay*, noted as the place from which was issued the only English version of the Scriptures received among Roman Catholics, and first published in 1609. *Dunkirk*, the most northern town in France, is a strongly-fortified seaport. *Arras*, the birthplace of Robespierre, was long famous for its tapestry. *Calais*, the nearest city in France to the English shores, and the last possession of England in that country, is strongly fortified. *Boulogne* is the residence of many English families. *Amiens*, where was signed the treaty of peace between Britain and France in 1802, the birthplace of Peter the Hermit, Du Cange, and Delambre the astronomer. *Rouen*, the most populous city in the north of France, celebrated for spinning and dyeing woollen and cotton stuffs, contains a magnificent cathedral built by William the Conqueror, and a statue of the heroic Joan of Arc. *Le Havre*, at the mouth of the Seine, is the seaport of Paris, a packet station, and a place of great trade. *Chartres*, once the capital of Celtic Gaul, has a great trade in corn. *Caen*, a large manufacturing town, contains the tomb of William the Conqueror. *Alençon*, famous for its lace and crystal diamonds. *Cherbourg*, the Sebastopol of France, and one of her principal naval stations, is an impregnable fortress situated at the northern extremity of the Peninsula of Cotentin, and within sight of the English coast. *Laval*, a large trading town. *Rennes*, the ancient capital of Brittany. *St Brieuc*, extensively engaged in the Newfoundland cod-fishing. *Brest*, the principal station of the French navy, is strongly fortified, and has an immense naval arsenal.

WESTERN DEPARTMENTS.—*L'Orient*, one of the five principal stations of the French navy. *Nantes*, a large commercial city on the Loire, from which was issued the famous edict granting important privileges to the French Protestants in 1598. *Angers*, a large commercial city at the confluence of the Sarthe and Mayenne, was formerly the capital of Anjou. *Saumur*, a stronghold of the French Protestants in the sixteenth century. *La Rochelle*, memorable for the lengthened siege which the Huguenots sustained against Louis XIII. in 1627. *Rochefort*, one of the five great naval stations, and the third military port in France. *Angoulême*, a place of considerable trade, and the birthplace of Montalembert, Balzac, and Margaret de Valois. *Cognac*, noted for its export of brandy. *Bordeaux*, the largest and most important city in the west of France, is the great emporium of the wine trade. *Agen*, on the Garonne, has a great trade in prunes.

SOUTHERN DEPARTMENTS.—*Pau*, a favourite winter residence for invalids, and the birthplace of Henry IV. *Bayonne*, where the bayonet was invented, is a strongly-fortified seaport, at the mouth of the Adour. *Toulouse*, the principal city in the south of France, contains the largest cannon-foundry in the empire: near it took place a sanguinary battle in 1814 between Wellington and Marshal Soult. *Montauban*, a large well-built town, and the seat of a Protestant theological seminary. *Alby* gives name to the Albigenes, so cruelly persecuted by the Church of Rome in the middle ages. *Castres*, one of the first cities in France that embraced the doctrines of Calvin. *Perpignan* has extensive commerce in wines, wool, silk, and iron. *Carcassonne* has an active trade in brandy. *Montpellier*, one of the finest cities in the south of France, is famed for its salubrity. *Nîmes*, an important manufacturing and commercial city, remarkable for its

monuments of antiquity. *Beaucaire* has an immense annual fair, frequented by merchants from all parts of Europe and Asia. *Annonay*, the centre of a great paper-manufacture.

SOUTH-EASTERN DEPARTMENTS.—*Marseille*, the ancient *Massilia*, founded by Greek colonists B.C. 600, is a large flourishing city, and the third in France in regard to population: it was long celebrated for the cultivation of letters, and its commerce extends to all parts of the world. *Arles*, the seat of numerous ecclesiastical councils. *Aix*, noted for its hot saline springs. *Avignon*, the residence of the popes from 1329 to 1376, is a flourishing town surrounded by mulberry plantations. *Orange* gives the title of Prince of Orange to the king of the Netherlands. *Toulon*, the great naval station and arsenal of the south of France, is a large and populous city, strongly fortified. *Nice*, the capital of the newly-formed department of Alpes Maritimes, has long been noted for the salubrity of its climate: it was one of the earliest seats of Christianity in Europe. *Valence*, noted for cotton-printing and the manufacture of silk goods.

EASTERN DEPARTMENTS.—*Albertville*, capital of the recently annexed department Haute Savoie (*Upper Savoy*). *Chambery*, capital of the department Savoy, recently acquired from Sardinia; has a considerable trade in metals and wines. *Grenoble*, a fortified city on the Isère, carries on an active trade in gloves and liqueurs. *Vienne*, a thriving town, with lead and silver mines in the vicinity. *Lyon* (*Lugdunum*), at the confluence of the Rhone and Saône, is the second city in France in regard to population, manufactures, and commercial importance: it was the capital of Celtic Gaul in the time of the Romans; it suffered greatly during the siege of 1793, and was the scene of sanguinary insurrections in 1831-32. *Macon*, the centre of an extensive wine trade. *Chalons-sur-Saône*, at the head of the Canal du Centre, carries on an extensive inland trade. *Lons-le-Saulnier*, so named from its famous saline spring, which yields annually 20,000 quintals of salt. *Besançon*, a fortified city on the Doubs, is celebrated for its clocks and watches. *Colmar* and *Muhlhausen*, noted for their extensive manufactures of cotton. *Strasbourg*, formerly a free imperial city of Germany, which became subject to France in 1681, is very strongly fortified, and contains a celebrated cathedral with a spire 466 feet high. It capitulated to the German army under General von Werder, 28th September 1870.

NORTH-EASTERN DEPARTMENTS.—*Metz*, a very strongly fortified city near the Belgian frontier, was compelled to capitulate to the German army, October 27, 1870, when 3 marshals of France, 50 generals, and 173,000 men were made prisoners. *Reims* or *Rheims*, the principal seat of the woollen manufacture, is noted for its colossal cathedral, in which many of the kings of France were crowned. *Sedan* will be ever memorable in history as the scene of the terrible humiliation of France (Sept. 2, 1870), when Napoleon III., Marshal MacMahon, 39 generals, and 100,000 soldiers surrendered unconditionally to the Germans. *Fontainebleau*, where Napoleon signed his abdication, was long the favourite residence of the kings of France. *Versailles*, famous for its magnificent royal palace, one of the most gorgeous in the world, was the residence of the kings of France from 1672 to 1790. *PARIS*, the capital of France, and, next to London, the largest city in Europe, is situated on both banks of the Seine, about 100 miles from its mouth; it is universally regarded as the most splendid city in Europe, is surrounded by a fortified wall, and a series of forts erected by Louis Philippe at an enormous expense; is adorned by sumptuous palaces, magnificent churches, and other public buildings. After a protracted siege (commencing Aug. 7, 1870), during which the Parisians endured horrible privations, the city was compelled to surrender to the Germans. *St Denis*, where twenty-six kings, sixteen queens, and eighty-three princes and princesses are interred, derives its name from the martyr St Denis. The church is a Gothic edifice, 415 feet in length, 106 in breadth, and contains in its vaults some ancient tombs, which escaped destruction in the Revolution of 1789.

CENTRAL DEPARTMENTS.—*Le Mans* has a brisk trade in grain and various manufactures. *Tours*, a considerable manufacturing city, near which Charles Martel arrested the advance of the Saracens from Spain, A.D. 732. *Orléans*, once the capital of the kingdom of Burgundy, was besieged by the English in 1428, and delivered by the celebrated Joan of Arc, hence called the Maid of Orleans. *Troyes*, formerly the capital of Champagne, was celebrated in the middle ages for its fairs, at which the weight now known as Troy weight was first introduced. *Poitiers*, noted for the triumph of Edward the Black Prince in 1356, when the French king was taken

prisoner and conducted to London. *Bourges*, the birthplace of Bourdaloue, contains one of the finest Gothic cathedrals in Europe. *Dijon*, the principal market for the sale of Burgundy wines, and the birthplace of Bossuet. *Limoges* is mainly noted for its horse-races and woollen manufactures. *Moulins*, noted for its tanneries and its manufactures of cutlery. *Tulle* contains a national factory of firearms. *Clermont-Ferrand*, the birthplace of Pascal, stands near the foot of the lofty Puy-de-Dôme, in the centre of a volcanic region. *St Etienne*, surrounded by coal-mines, is a large thriving city, largely engaged in the manufacture of firearms. *Cahors* carries on a great trade in tobacco and red wines. *Le Puy*, celebrated for its cathedral, containing a small image of the Virgin, which is devoutly worshipped by the inhabitants. *Ajaccio*, the capital of Corsica, carries on a good trade in wine, oil, and coral, but is chiefly noted as the birthplace of Napoleon I.

Capes.—Gris-Nez, in Pas-de-Calais, the nearest point to England; Barfleur and La Hague, in Manche; Cape S. Mathieu and Raz Point, in Finistère, the former the most westerly point of France; Sicie, in Var.

Islands.—Ushant, W. of Finistère; Belle Isle, S. of Morbihan; Noirmoutier and Ile Dieu, W. of Vendée; Isle de Ré and Oleron, W. of Charente Inférieure; Hyères, S. of Var; Corsica, 100 miles S.E. of Var, now forming one of the eighty-nine departments of France.

Gulfs, Bays, and Straits.—Strait of Dover, 20 miles wide, between Pas-de-Calais and Kent; Estuary of the Seine; Bay of S. Malo, between Manche and Côtes du Nord; Gironde, between Charente Inférieure and Gironde. Bay of Biscay, between the W. of France and the N.W. of Spain; Gulf of Lions, S.E. of France.

Surface and Mountains.—The face of the country is generally level, and its aspect monotonous and dreary. The want of ornamental plantations, and the almost total absence of hedges, give to the landscape an unusual degree of sameness. The principal mountain-ranges are situated on the S.W. and E. frontiers, and belong in part to the Hesperian, but chiefly to the Alpine system (see under "Europe," p. 25). They are all comprised in the following seven groups:—

The Pyrenees, between France and Spain, separating the basins of the Tet, Aude, Garonne, and Adour, from those of the Llobregat and Ebro—the loftiest summits (Maladetta, &c.) being within the Spanish frontier; Mont Perdu in Hautes Pyrenées, 10,994 feet; Mont Midi, in Basses Pyrenées, 9438 feet.

The Alps, between France and Italy, and between the basins of the Rhone and Po. The highest summits belonging to France are, Mont Blanc, in Haute Savoie, 15,744 feet, the culminating point of Europe, (unless we should except Mont Elburz, in the Caucasus, which is 18,493 feet); Mont Pelvoux, between Hautes Alpes and Isère, 14,108 feet; Mont Genève, 11,785 feet, and Monte Viso, 13,600 feet, both in Hautes Alpes.

Jura Mountains, between France and Switzerland, separating the basins of the Doubs and Aar—Mont Molleson, in Ain, 6588 feet; Reculet, 5643 feet.

Vosges Mountains, between Lorraine and Alsace, separating the Rhine from its affluent the Moselle; Ballon de Guebwiller, in Haut Rhin, 4690 feet; Ballon d'Alsace, 4688 feet.

Côte d'Or Mountains, in department of same name, separating the basins of the Seine and Loire from that of the Saône—Le Tasselot, 1968 feet.

Cevennes Mountains, in Languedoc, separating the basins of the Rhone and Saône from those of the Loire and Garonne—Mont Mezin, in Ardèche, 5794 feet; Mont Lozère, in Lozère, 4884 feet.

Auvergne Mountains, separating the basin of the Loire from that of the Dordogne and Garonne—Pic de Sancy, in Puy-de-Dôme, 6220 feet; Puy de Dôme, 4800 feet.

Table of Rivers and Towns.—The following table embraces all the rivers and towns of France enumerated under the "Political Division," the capitals of departments being distinguished by SMALL CAPITAL letters; towns above 10,000 inhabitants, by Roman letters, and smaller towns by *Italics*. The Rhine, Meuse, and Scheldt, being shown in their full development under Germany and the Netherlands, only the portions of them belonging to France are noticed here.

Basins inclined to the English Channel.

<i>Rivers, &c.</i>	<i>Towns.</i>
Strait of Dover,	Dunkirk, Calais, Boulogne.
Aa,	St Omer.
Somme,	Abbeville, AMIENS, St Quentin.
Arques,	Dieppe.
Seine,	Le Havre, ROUEN, Elbeuf, St Denis, Versailles, PARIS, Melun, Fontainebleau, Troyes.
Eure, <i>l</i>	CHARTRES.
Iton, <i>l</i>	EVREUX.
Oise,	Compiègne.
Terrein,	BEAUVAIS.
Aisne, <i>l</i>	Soissons.
Vesle, <i>l</i>	Reims.
Delette, <i>l</i>	LAON.
Marne,	PARIS, CHALONS - SUR - MARNE, CHAUMONT, Langres.
Ornain,	BAR-LE-DUC.
Yonne, <i>l</i>	AUXERRE.
Orne,	CAEN.
Vire,	St Lo.
Divette,	Cherbourg.
Gouet,	ST BRIEU.

Basins inclined to the Atlantic.

Elorn,	Brest.
Odet,	QUIMPER.
Blavet,	L'ORIENT.
Co. Morbihan,	VANNES.
Vilaine,	RENNES.
Loire,	NANTES, ANGERS, n., Saumur, TOURS, BLOIS, ORLEANS, NEVERS, MONTBRISON, St Etienne, Le Puy.

Basins inclined to the Atlantic—(continued).

<i>Rivers.</i>	<i>Towns.</i>
Mayenne,	ANGERS, LAVAL.
Sarthe,	LE MANS, ALENÇON.
Vienne, <i>l</i>	Chatellerault, LIMOGES.
Creuse,	GUERET.
Clain, <i>l</i>	POITIERS.
Indre, <i>l</i>	CHATEAUROUX.
Cher, <i>l</i>	TOURS.
Auron,	BOURGES.
Allier, <i>l</i>	MOULINS, CLERMONT-FERRAND.
Dore,	Thiers.
Furens,	St Etienne.
Lay,	Luçon, n.
Yon,	NAPOLÉON-VENDÉE.
Sèvre Niortaise,	NIORT.
Co. Charente Inférieure,	} LA ROCHELLE.
Charente,	
Dordogne,	Rochfort, Cognac, ANGOULÊME.
Isle,	Libourne.
Vézère, .	PERIGUEUX.
Corrèze, <i>l</i>	Montignac. .
Cère, <i>l</i>	TULLE.
Cère, <i>l</i>	AURILLAC.
Garonne,	BORDEAUX, AGEN, TOULOUSE.
Lot,	CAHORS, MENDE.
Gers, <i>l</i>	AUCH.
Tarn,	MONTAUBAN, Alby.
Aveyron,	Villefranche, RHODES.
Agout, <i>l</i>	Castres.
Ariège,	FOIX.
Adour,	Bayonne, TARBES.
Gave-de-Pau,	PAU.
Midouze,	MONT-DE-MARSAN.

Basins inclined to the Mediterranean.

Tet,	PERPIGNAN.
Aude,	Narbonne, CARCASSONNE.
Orbe,	Beziers.
Co. Hérault,	Cette.
Lez,	MONTPELLIER.
Vistre,	NÎMES.
Rhone,	Arles, Beaucaire, AVIGNON, VALENCE, Vienne, LYON (all in France), GENEVA, LAUSANNE, SION or SITTEN (in Switzerland).
Durance, <i>l</i>	AVIGNON.
Bleone, <i>l</i>	DIGNE.
Lure,	GAP.
Aigues, <i>l</i>	Orange.
Ouvèze,	PRIVAS.
Isère, <i>l</i>	GRENOBLE.

Basins inclined to the Mediterranean—(continued).

<i>Rivers.</i>	<i>Towns.</i>
Cance,.....	ANNONAY.
Saône,.....	LYON, MACON, Chalons-sur-Saône.
Reyssouse, <i>l</i>	BOURG.
Seille, <i>l</i>	POLIGNY.
Vaillères, <i>l</i>	LONS-LE-SAULNIER.
Doubs, <i>l</i>	BESANCON.
Ouche,.....	DIJON.
Drejon, <i>l</i>	VESOUL.
Savière, <i>l</i>	Drains Lake Bourget in Savoy.
Leisse,.....	CHAMBERY.
Fieran, <i>l</i>	ANNÉCY.
Arc,.....	AIX.
Verne,.....	MARSEILLE.
Co. Var,.....	TOULON.
Argens,.....	LAGUÈRES.
Artuby, <i>l</i>	DRAGUIGNAN.
Siagne,.....	GRASSE, n.

Basins inclined to the North Sea.

Rhine,.....	STRASBOURG.
Moselle,.....	Coblentz, Treves (<i>both in Rhenish Prussia</i>), METZ, NANCY, ÉPINAL.
Meurthe,.....	Lunéville.
Ill, <i>l</i>	COLMAR, Mülhausen.
Meuse,.....	MEZIÈRES, Sedan, Verdun.
Scheldt,.....	Valenciennes, Cambrai.
Lys, <i>l</i>	Tourcoing, n.
Deule,.....	Roubaix, LILLE.
Scarpe, <i>l</i>	Douay, ARRAS.

Lakes.—France is singularly destitute of fresh-water lakes—the only one of the least importance being Grand Lieu, in Loire Inférieure, 20 square miles in area, and drained by the Achenau, a small affluent of the Loire; but there are numerous *lagoons* or salt-marshes both in the south-west and south-east, from which large quantities of salt are obtained; as *Etang de Carcans* and *Bassin d'Arcachon*, in Gironde; *Etang de Sanguinet*, in Landes; *Etang de Lucate*, and *Etang de Sigean*, in Aude; *Etang de Thou*, in Herault; and *Etang de Berre*, in Bouches-du-Rhône.

Climate.—The climate of France is in general dry, pleasant, and healthy; but it varies considerably in different parts of the country. The mean temperature of the capital is slightly greater than that of London, but is 2° higher in summer, and as many lower in winter. In the north-west the climate resembles that of the S. of England; in the north-east the winters are long and severe; in the south-east the sky is almost always serene, and the winters of short duration; while the south-west is exposed to piercing winds and tempests

from the Bay of Biscay. The annual fall of rain on the W. coast is about 24 inches; in the S. and S.E., 23 inches; and in the N. and N.E., 22 inches. (See under "Botany and Agriculture.")

Minerals.—Mines of silver, copper, lead, and antimony are wrought, but their gross produce is inconsiderable. Iron is found in all parts of the country, and is worked to the extent of half a million tons annually. The most abundant coal deposits occur in the central departments, and along the northern frontier; but it is a curious fact that the coal and iron are rarely found interstratified as in Britain, but in widely remote localities, while the former is of inferior quality, and generally at an inconvenient distance from the sea. Salt-mines of considerable value are wrought in the Vosges and Jura Mountains; and great quantities are also produced by evaporation from the salt-marshes above enumerated.

Botany and Agriculture.—France is wholly embraced within the *second* botanic region of Professor Schouw (see p. 30). The indigenous plants, one-half of which are flowering, amount to about 7000 species. Forests, consisting chiefly of pine, oak, beech, elm, ash, and birch, occupy nearly one-eighth of the entire surface; while the principal fruit-trees are the vine, olive, chestnut, walnut, almond, apple, pear, cherry, orange, citron, fig, pomegranate, pistachio, lemon, and plum.

Agriculture is in a very backward state, rotation of crops being unpractised, agricultural implements being of a very inferior description, and the land being divided and subdivided among several millions of proprietors. Wheat and the vine form the principal objects of culture, and next to these barley, oats, rye, buckwheat, Indian-corn, pease, beans, beetroot, flax, tobacco, madder, and saffron. The quantity of corn raised is usually sufficient for the wants of the population. Wheat is grown chiefly in the north, maize in the south and east, and rye in all parts of the country. The vine is profitably cultivated as far north as a line connecting the mouth of the Loire with that of the Moselle, and the olive on the coast of the Mediterranean. Mulberry trees, for the support of the silkworm, are cultivated in great numbers around Lyon.

Zoology.—Among wild quadrupeds the principal species are the wolf and wild boar in the forests; the black and the brown bear in the Pyrenees; the lynx in the Alps; the chamois and wild goat in the Alps and Pyrenees; the marmot, ermine, hamster, and various squirrels in the Vosges; the beaver on the banks of the Rhone; the otter and water-rat in most of the rivers; while the hare, rabbit, fox, stag, and roebuck are generally distributed. The birds are, for the most part, the same as in England; while reptiles comprise numerous species of frog, a few tortoises, and several serpents.

Ethnography.—Previous to its conquest by the Romans (B.C. 122–50), the whole country now known as France (with exception of Aquitania, which was peopled by the Basques or Iberians, and a few districts on the left bank of the Rhine, which were occupied by German tribes) was inhabited by nations of the Celtic stock. In the fifth century it was overrun by the Franks, a confederacy of Gothic tribes. The people of modern France are consequently of

very mixed origin; but the Bretons in Brittany, and the Basques in Béarn, represent the ancient stocks in a state of comparative purity.

The French *language* is mainly based on the ancient Latin, variously modified by admixture with the tongues of aboriginal tribes and successive hordes of conquerors. The Armoric, however, a Celtic dialect of the Kymric branch, continues to be spoken in Brittany; the Basque, which cannot be classed under any known family, in the western Pyrenean departments; the Flemish in French Flanders; and the German in Alsace. The Roman Catholic *religion* is professed by the great bulk of the inhabitants, there being less than two million Protestants in the empire. The latter are divided into Lutherans and Calvinists; their ministers, in common with the Romish priesthood, are salaried out of the public treasury; but the measure of toleration granted them is limited. *Education*, from its lowest to its highest stage, is regulated by the government. Primary education is defective and very irregularly distributed, but flourishes most in the eastern departments, where nine-tenths of the people can read and write. Advanced education is conducted by an organisation known as the "University of France," which embraces five faculties—viz., those of Science, Letters, Law, Medicine, and Theology—and which has branches in Paris, Caen, Toulouse, Dijon, Poitiers, and Rennes. The Roman Catholic Church educates its clergy in its own ecclesiastical seminaries. In regard to *national character*, the French are distinguished for their gaiety, impulsiveness, fickleness of disposition, passion for military glory, and especially for their exquisite taste and courtesy of manners. Though their arms have at various times been crowned with the most splendid success, no nation has ever experienced greater reverses or more signal defeats. Licentiousness is also a prominent characteristic of the nation; in the capital, for instance, every third mother is unmarried, and every third child has a stain on his birth. In all departments of literature and science France can boast of a perfect galaxy of brilliant names—the reign of Louis XIV., from 1643 to 1715, being the Augustan age of French literature (see 'Manual,' p. 255).

Government and Finance.—Until the great Revolution in 1789, the form of government was an absolute monarchy; but since that time there have been repeated changes, which, in 1852, resulted in an imperial despotism, the reigning sovereign being Napoleon III. His reign came to an ignominious termination by the terrible defeat at Sedan, after which France became a Republic.

Civil and religious liberty is unknown, but recently representative institutions are beginning to appear. A vast standing army of more than 550,000 men is constantly maintained, and great efforts are being made to raise the navy to an equality with that of England. The Revenue and Expenditure in 1868 amounted each to about £88 000,000, and the Public Debt to £348,000,000.

Manufactures and Commerce.—France ranks next to Britain in manufacturing industry and commerce.

The woollen, linen, and cotton manufactures are confined to the northern departments; but the silk manufacture, which is the most extensive in the empire, has its principal centre at Lyon. Metallic goods are chiefly manufactured at St Etienne; ornamental works and scientific instruments are made in great perfection in many places, while

Paris excels all European cities for its cutlery, jewellery, gloves, and fancy articles in general. In products requiring beauty of design, artistic skill, and chemical knowledge, the French surpass all other nations. Bordering alike on the Atlantic, the North Sea, and the Mediterranean, the situation of the country is admirably adapted for foreign commerce; while its navigable rivers, canals, and railways, afford abundant facilities for internal trade. The principal imports, the total value of which, in 1868, amounted to £136,500,000 sterling, are, raw cotton and silk—the former from the United States, the latter from Italy and Turkey—flax, wool, coal, iron, and articles of colonial produce, as tea, coffee, sugar, tobacco. The exports consist chiefly of wine, brandy, oils, fruit, silk, and woollen stuffs, linen, lace, and a great variety of fancy articles: total value, £116,500,000.

Internal Communication.—The means of internal transit are numerous and extensive, embracing 8000 miles of water communication by navigable rivers and canals; 47,000 miles of good roads; and about 10,000 miles of railway, nearly all of which radiate from the capital, and proceed to the extremities of the country.

Foreign Possessions.—The foreign possessions of France have an aggregate area one and a half times greater than its home territory; but their population is not more than one-sixth that of the latter.

They consist principally of Algeria (Fr. *Algérie*), in Africa, and French Guiana, in South America, which are by far the most important; together with Senegal, Goree, &c., on the W. coast of Africa; the Island of Reunion, in the Indian Ocean; Mahé, Karikal, Pondicherry, Yanam, and Chandernagore, in Hindostan; St Pierre and Miquelon, in the Gulf of St Lawrence; Martinique, Guadeloupe, and a few other islands in the West Indies; New Caledonia, Tahiti, Marquesas, and the Gambier archipelago, in Oceania. France also lays claim to a large territory in the S. of Cochin China, with a population of 2,000,000. Total area of the colonies, including Algeria and Cochin China, 288,951 square miles: population, 5,648,000.

BELGIUM.

Boundaries.—N., the Netherlands; N.W., the North Sea; S.W. and S., France; E., Dutch Luxembourg, Rhenish Prussia, and Dutch Limbourg. Lat. 49° 30'—51° 30' N.; long. 2° 33'—6° 5' E.

Brussels, the capital, situated near the centre, has the same latitude as Cape Clear, Dover, Dresden, Breslau, Lublin, Tchernigov, Uralsk, and Irkutsk, and the same longitude as the Hague, Lyon, and Minorca. The form is triangular, the longest side resting on France; length 175 miles, breadth 105 miles; surface level and but slightly elevated above the sea; coast-line small, measuring only 40 miles; the country protected from inundations by sand-hills along the shore, and by artificial embankments along the principal rivers.

Area and Population.—The area of Belgium is 11,408 square miles, or little more than a third of the area of Ireland; but the population is very dense, being in 1869 no less than 5,021,336, or

440 persons to each square mile. Belgium is consequently the most densely peopled country in Europe.

Political Divisions.—The kingdom is divided into nine provinces, which, with their principal towns, are as follows :—

West Flanders.*—Bruges 50, Ostend 15 (Ostend Canal), Courtrai 20 (Lys), Ypres 15 (Yperlee).

East Flanders.—Ghent 120, St Nicholas 20, Renaix 14 n. (Scheldt), Lokeren 16 (Duvine), Alost 16 (Dender).

Antwerp.—Antwerp 115 (Scheldt), Mechlin 28 (Dyle).

Limbourg.—Hasselt 9 (Demer, *affl.* Dyle), St Trond 10 (Geete).

Liege.—Liege 98 (Maas), Verviers 20, Spa 4 n. (Vesdre).

Luxembourg.—Arlon 5 (Semoy, *affl.* Maas).

Namur.—Namur 25 (Maas).

Hainault.—Mons 23 (Haine, *affl.* Scheldt), Tournay 30 (Scheldt).

South Brabant.—BRUSSELS 175, Waterloo n. (Senne, *affl.* Dyle), Louvain 30 (Dyle).

Descriptive Notes.—Belgium contains twenty-five towns of more than 10,000 inhabitants; thirteen above 20,000; five above 50,000—viz., Brussels, Ghent, Antwerp, Liege, and Bruges, the three first of which exceed 100,000.

Bruges or *Brugge* owes its name to the numerous *bridges* which cross the canals by which it is intersected. It was at one time the great depot of the Hanseatic League, and one of the greatest marts of commerce in Europe; but began to decline in the fifteenth century, when the religious persecutions of Philip II. obliged many of its artisans to seek a refuge in England, where they introduced or improved the woollen manufactures of that country. *Ostend*, the only maritime town of Belgium, is the packet-station for England, and much resorted to for sea-bathing. *Ghent*, the largest city in Belgium, with the exception of the capital, which it far exceeds in the extent of its manufactures, is situated at the confluence of the Scheldt and Lys. *St Nicholas* and *Lokeren*, chief seats of the cotton manufacture. *Antwerp*, a large and strongly fortified city on the Scheldt, and the chief emporium of Belgian commerce, contains a noble cathedral, many valuable works of art, and extensive manufactures. *Mechlin* (Fr. *Malines*), at the intersection of several railways, is a place of great trade in flax, corn, and oil. *Liège*, at the confluence of the Maas and Ourthe, may be called the Birmingham of Belgium, on account of its vast ironworks and extensive coal-mines. *Verviers*, noted for its dye-works and its manufactures of yarn and woollen cloth. *Spa*, for a long time one of the most frequented watering-places in Europe. *Namur*, at the confluence of the Maas and Sambre, is strongly fortified, and has been long noted for its cutlery: near it are rich mines of coal, iron, lead, and copper. *Mons*, a fortified city on the Haine, has numerous coal-mines in the vicinity. *Tournay*, a strongly fortified city on the Scheldt, with extensive manufactures of cloth and Brussels carpets. *Brussels*, the capital of Belgium, on the Senne, an affluent of the Dyle, is a large and beautiful city, long celebrated for its carpets, lace, and carriages; but the first-named branch of manufacture has now greatly declined. The business of printing and publishing is extensively carried on: it contains a university, and is the chief seat of public instruction in Belgium. *Waterloo*, a village nine miles south of Brussels, is famous for the great battle fought near it, June 18, 1815, between the French under Napoleon, and the British under the Duke of Wellington, when the former was utterly defeated.† *Louvain*, the seat of a famous Popish university, established in 1426.

* For pronunciation, see under "Netherlands."

† Among other places in Belgium celebrated for the sanguinary battles that have been fought near them, may be mentioned *Oudenarde*, in E. Flanders; *Charlerot*, *Fleurus*, *Fontenoy*, and *Jemmapes*, in Hainault; *Genappe*, *Ramillies*, *Quatre Bras*, and *Ligny*, in S. Brabant. Belgium, indeed, may justly be styled the great battle-field of Europe.

River System.—The Maas or Maese (*Fr.* Meuse), with its tributaries the Ourthe and Sambre, and the Scheldt (*Fr.* Escaut), with its affluents the Dyle and Lys, are the only rivers of importance in Belgium. The Maas and Scheldt, which are navigable throughout Belgium, have their upper courses in France, the former having a total length of 434 miles, and the latter of 200 miles, and are lined on either side by stupendous embankments to prevent their inundating the country. (For Table of Rivers and Towns, see under “Netherlands.”)

Climate.—The climate is in general temperate, mild and agreeable, but humid and unhealthy in the N. and N.W. The range of temperature is very great, the extreme heat being sometimes as high as 92° Fah., and the extreme cold 3° below zero. The mean temperature of the year is at Brussels 50°, and the annual fall of rain 26 inches.

Minerals.—The mineral products are highly important. Coal and iron mines are very numerous in the four southern provinces, which produce more coal than any other country on the continent. The same district yields one-half of all the zinc used in Europe. Other minerals are copper, lead, manganese, sulphur, alum, and slates.

Botany and Agriculture.—The vegetation of Belgium closely resembles that of England and the north of France. Agriculture is in a highly flourishing condition, and has long served as a model to neighbouring countries. Though the soil is not naturally very rich, such have been the skill and industry of the husbandman that the quantity of corn raised is double that required for home consumption. Clover, flax, hops, beetroot, chicory, tobacco, potatoes, oil-seed, and madder, form important articles of farming. The vine is cultivated on the banks of the Maas, but the wine is of an inferior quality.

Zoology.—The principal wild animals are the wolf, bear, wild-boar, and roebuck; while among domestic species may be reckoned horses, horned cattle, sheep, and pigs, all of which are reared in great perfection.

Ethnography.—Two races of people are found in Belgium, the Flemings and Walloons, the former of whom are of German and the latter of French extraction.

The *Languages* are four in number—Flemish, Walloon, German, and French. The Flemish, which is closely allied to the Dutch, is generally spoken in the four northern provinces; while the Walloon, which is a dialect of the French, prevails throughout the remainder of the country. German is spoken in a part of Luxembourg; and French is the language of literature and legislation. Almost the entire population belongs to the R. Catholic Church; but other denominations are tolerated, and Protestantism is on the increase. *Education* is in an advanced state, one-ninth of the whole population being constantly at school. Numerous gymnasia, on the German model, have been erected in the large towns; and there are four universities—viz., those of Ghent, Liege, Brussels, and Louvain. Belgium has always been more famed for its cultivation of the fine arts than for literature, in which it stands greatly lower than the Netherlands. Music is much cultivated among all ranks of the

people; architecture, more especially in the Gothic style, has been carried to a high degree of perfection; while the Flemish school of painting is justly celebrated for its excellence in colouring, and in the faithful imitation of nature.

Government and Finance.—The origin of the kingdom as a separate State dates only from 1830, previous to which it formed part of the Kingdom of the Netherlands.

From the fifteenth century till 1795 Belgium formed successively part of the dominions of Austria and Spain. In the latter year it was conquered by the French, and was annexed to Holland in 1815. The form of government is a constitutional monarchy, the legislative power being invested in the King, a Senate, and House of Representatives. Liberty of worship, a free press, and trial by jury, are guaranteed by the laws. The land force amounts to 74,000 men, but the navy is insignificant. The revenue and expenditure in 1867 amounted each to about £8,000,000, and the public debt to £29,000,000.

Manufactures and Commerce.—In proportion to its size, Belgium surpasses every other continental state in manufacturing and mining industry.

The principal manufactures are Brussels carpets, unrivalled for elegance, linen cloth and yarn, fine lace, cotton and silk fabrics, woollen cloth, and metallic goods, in Liege and Namur; and firearms, locomotives, and steam machinery, at Seraing. These, with corn, cattle, seeds, furniture, and cutlery, form the principal exports, which in 1868 were valued at nearly £48,000,000 sterling. The imports in the same year amounted to £54,500,000, and consisted for the most part of tropical products (as tea, coffee, sugar, and cotton), tobacco from the United States, wool from Germany, cotton yarn, cotton cloth, hardware, earthenware, and various manufactured articles from England, and wines and fruits from the south of Europe. As the sea-board is very limited, and as there are no colonies, the foreign commerce is inconsiderable; but the inland trade is very active, being greatly promoted by navigable rivers, by excellent canals, many of which admit merchant vessels, by public roads, which are broad and well-paved, and by numerous railways, constructed at the expense of the Government. In 1868 the number of miles of railway open for traffic was 1419, a higher proportion than in any other continental country.

THE NETHERLANDS, OR HOLLAND.

Boundaries.—N. and W., the North Sea; S., Belgium; E., Prussia and Hanover. Lat., 50° 46'—53° 34' N.; lon., 3° 24'—7° 12' E. *

Amsterdam, the capital, situated near the centre of the kingdom, is on the same parallel of latitude as Tralee (capital of Kerry), Cambridge, Hanover, Berlin, War-

* The Grand Duchy of Luxembourg, situated between Belgian Luxembourg and the Moselle, is not included within these limits.

saw, and Samara; and on the same meridian as Brussels, Lyon, and Minorca. The form approaches a rhomboid, with deep indentations at the three angles washed by the sea. Length, 187 miles; breadth, 117 miles; coast-line extremely irregular, and about 500 miles in length; surface very depressed, in many places below the level of the rivers, canals, and even the sea at high tide, and hence requiring to be protected by enormous dykes which have been constructed at the public expense.

Area and Population.—The area is 13,631 square miles or nearly twice the size of Wales. The population in 1871 was 3,688,337, or one-sixth more than that of Scotland, there being 275 inhabitants to each square mile.

Political Divisions.—The kingdom is divided into twelve provinces.

North Holland.*—AMSTERDAM 281 (*conf.* of the Amstel and Y), Haarlem 31 (Y).

South Holland.—The Hague 93, Delft 23 (Schie Canal), Leyden 40 (Old Rhine), Rotterdam 123, Dort 23 (Maas), Gouda 15 n. (Leck).

Zealand.—Middelburg 16 (West Scheldt).

North Brabant.—Bois le Duc 23 (Dommel), Breda 13 (Merk).

Utrecht.—Utrecht 60 (Old Rhine), Amersfoort 14 (Eem).

Gelderland.—Arnhem 33 (Rhine), Nymegen 23 (Waal), Zutphen 11 (Yssel).

Overijssel.—Zwolle 21 n. (Vecht), Deventer 14 (Yssel).

Friesland.—Lewwarden 25 (Ee).

Gröningen.—Gröningen 38 (Hunse).

Drenthe.—Assen 2 (Hoorn Diep).

Dutch Limbourg.—Maastricht 28 (Maas).

Dutch Luxembourg.—Luxembourg 11 (Alzette, *affl.* Moselle).

Descriptive Notes.—There are altogether twenty-six towns each containing more than 10,000 inhabitants; twelve above 20,000; three above 50,000 (Amsterdam, Rotterdam, and the Hague), the first two of which exceed 100,000.

AMSTERDAM, the commercial capital, with above a quarter of a million inhabitants, is by far the largest city in the kingdom, and one of the most important commercial marts in Europe. It is a great depôt for the commodities of the East and West Indies, and contains immense storehouses filled with the most valuable products of both hemispheres. *Haarlem*, the birthplace of Lawrence Coster, whom the Dutch regard as the inventor of the art of printing (1440), maintains an extensive trade in flowers and flower-seeds, and is memorable for the siege it sustained against the Spaniards in 1572. *The Hague*, the seat of the States-General, and the usual residence of the king, is a very elegant city, and the birthplace of Huyghens the mathematician, and of William III. of England. *Delft*, noted for its earthenware, is the birthplace of Hugo Grotius. *Leyden*, the literary capital, contains a famous university, and has the most extensive linen and woollen manufacture in the kingdom. *Rotterdam*, the second city of Holland, in regard to extent, wealth, and commercial importance, is intersected in all directions by canals capable of admitting the largest merchant vessels; at the head of one of these is a statue of Erasmus, who was born here in 1467. *Dort* or *Dordrecht*, gives name to a famous ecclesiastical synod held there in 1618, which con-

* Rules for pronouncing Dutch and Flemish:—*a, e, i, o, u*, same as in German; *aa* or *ae*, as *a* in *far*; *een*, like *u* in *rule*; *te*, same as *te* in *field*; *y* or *ij*, like *y* in *my*; *oe* or *o*, same as *oo* in moon; *oo* like *o* in *stone*; *ui* and *uy* = *oi* in voice.

d final = *t* in English; *g* and *ch* = *ch* in Scotch *loch*; *j* = *y* in *you*; *sch* = *sk* in *skin*; *th* = *t* in *tin*; *s* = *ts* in English.

demned the doctrines of Arminius. *Bois-le-Duc*, a strongly-fortified city at the confluence of the Dommel and Aa. *Utrecht*, the oldest city in the kingdom, contains a flourishing university. Here, in 1579, the United Provinces formally declared their independence of Spain; and here in 1713 was formed the treaty of peace which terminated the wars of the Spanish succession. *Zutphen*: here the brave Sir Philip Sidney received his death wound in 1586. *Zwolle*: here the famous Thomas-à-Kempis died in 1471. *Leuwarden*, a considerable trading town, contains the tombs of the Princes of Orange. *Gröningen*, a fortified commercial town, with a flourishing university. *Maestricht*, one of the most strongly-fortified places in Europe, has manufactures of cotton, woollen, and paper, with immense underground stone-quarries. *Luxembourg* has a fortress of great strength belonging to the Germanic Confederation.

Islands.—Texel, Vlieland, Ter-Schelling and Ameland, at the entrance of the Zuyder Zee; Walcheren, North Beveland, South Beveland, Schouwen, Over-Flakkee, Voorne, and Beyerland, all in the delta of the Maas and Scheldt.

Seas, &c.—The Dollart, between Gröningen and Hanover; Lauwer Zee, N.E. of Friesland; Zuyder Zee, E. of North Holland; estuaries of the Rhine, Maas, and Scheldt in South Holland and Zealand; Mars Diep, or Strait of Helder, between the Helder and Texel.

Table of Rivers and Towns.—The principal towns of Belgium and the Netherlands, with the rivers on which they stand, are exhibited in the following table:—

All the Basins incline to the North Sea.

<i>Rivers.</i>	<i>Towns.</i>
Hunse,	GRÖNINGEN.
Hoorn Diep,	ASSEN.
Ee,	LEUWARDEN.
Vecht,	ZWOLLE.
Rhine,	Deventer, Zutphen, on the <i>Yssel</i> branch; AMSTERDAM, on the <i>Amstel</i> ; Leyden, UTRECHT, ARNHEM, on the <i>Old Rhine</i> ; Gouda, on the <i>Leek</i> ; Nymegen, on the <i>Waal</i> .
Moselle, <i>l</i>	Treves (in Rhenish Prussia).
Sure, <i>l</i>	LUXEMBOURG, n., on the <i>Alzette</i> .
Schie Canal,	THE HAGUE, Delft.
Maas or Meuse,	Rotterdam, Dort, MAESTRICHT, LIEGE, NAMUR (see under France).
Mork, <i>l</i>	Breda.
Dommel, <i>l</i>	BOIS-LE-DUC.
Ourthe,	LIEGE.
Vesdre,	Verviers, <i>Spa</i> , n.
Sambre, <i>l</i>	NAMUR, <i>Charleroi</i> .
Semois,	ARLON.
Scheldt,	MIDDELBURG, ANTWERP, St Nicholas, GHENT, Renaix, Tournay.—(See under "France.")
Dyle,	Mechlin, Louvain.
Senne,	BRUSSELS, <i>Waterloo</i> , n.

<i>Rivers.</i>	<i>Towns.</i>
Demer,	HASSELT.
Duvine, <i>i</i>	Lokeren.
Dender,	Dendermonde, Alost.
Lys,	Courtrai (see under France).
Haine,	MONS.
Ostend Canal,.....	Ostend, BRUGES.
Yser,	Ypres, n., on the Yperlee.

Climate, Products, &c.—The climate is raw, damp, cold, and foggy, and extremely disagreeable to foreigners. The sky is generally overcast with clouds, and the winds—especially those from the W. and S.W.—are frequently violent. Though little snow falls, the winters are very severe and the frosts intense. The mean annual temperature at Amsterdam is 49°.8, summer 64°.4, and winter 35°.6 Fahr. ; annual fall of rain 26 inches.

The metals are wholly unknown in the Netherlands, and all the other common minerals are extremely scarce ; but coal is found in limited quantities in Dutch Limbourg. Building-stones even are wanting, and the piers are constructed of stones imported from Norway, while the houses are generally built of brick, or of timber from the forests of Germany. Potters'-clay, brick-clay, and immense deposits of turf abound. The botany of the country does not differ much from that of Belgium, except that aquatic plants of many species are very abundant. Horticulture has attained here a high degree of perfection ; but agriculture forms only a subordinate branch of rural industry, the country being better adapted for pasturage than for corn crops. Flax, hemp, rape-seed, chicory, mustard, hops, beetroot, and tobacco, are extensively cultivated ; but the corn raised is insufficient for home consumption. The wild mammalia are nearly all extirpated ; but waterfowl, reptiles, and fishes are unusually numerous.

Ethnography.—The people belong exclusively to the Teutonic stock. The national language is the *Dutch*, which, with the *Flemish* spoken in N. Brabant, and the *Frisic* by the uneducated classes in Friesland, is closely allied to the Lowland Scotch and the German.

About two-thirds of the population are Protestants, and one-third Catholics. The Protestants chiefly belong to the Reformed Church, being Calvinistic in doctrine and Presbyterian in government ; but all religions are tolerated, and all denominations put on a perfect level. Education is well attended to, there being one-eighth of the population constantly attending school. The universities are three in number—those of Leyden, Utrecht, and Gröningen. Ever since the revival of learning in Western Europe, the Dutch have distinguished themselves in every department of knowledge, but especially in philology, criticism, and theology.

Government and Finance.—The legislative power is vested in the King and two Chambers called the States-General, one of which consists of deputies elected by the people every three years, and the other of members nominated by the crown for life. The home

force in 1869 amounted to 60,000 men ; the navy to 144 vessels of war, carrying 1766 guns ; the revenue and expenditure to about £8,000,000 sterling each ; and the public debt to £81,000,000.

Manufactures and Commerce.—The principal manufactures are linen, paper, woollen and silk cloths, gin (Hollands), snuff, tobacco, leather, cordage, saltpetre, and tobacco pipes ; together with sugar-refining and shipbuilding. These, with butter, cheese, live stock, clover-seed, and articles of colonial produce, form the principal exports, the total value of which in 1868 was estimated at £37,000,000 sterling. The imports in the same year amounted to £46,000,000, and consisted for the most part of colonial and manufactured goods, corn, wines, cotton, wool, and coal. At one time the foreign commerce of the Netherlands exceeded that of any other European state, and it is still very large, owing to the position of the country at the confluence of the Rhine, Maas, and Scheldt with the North Sea, the numerous canals of unrivalled excellence which traverse it in all directions, and the great extent of its colonial possessions. Railways are comparatively few and but recently introduced, the number of miles open for traffic in 1871 being only 10,333.

Foreign Possessions.—When Belgium and the Netherlands were disunited (in 1830), the latter retained all the colonies, which have an aggregate area of 685,000 square miles, and a population (in 1868) of 20,728,000. The African possessions consist of various settlements on the Guinea Coast : the Asiatic dependencies comprise parts of Sumatra, Java, Bali, Lombok, Timor, Banda, Amboyna, Moluccas, Celebes, Borneo, Banka, and Rhio ; while those in South America embrace the extensive territory of Dutch Guiana, with the islands Curaçoa and St Eustatius. The Dutch also claim possession of the western half of Papua, but they have no settlements on that island.

DENMARK AND SCHLESWIG-HOLSTEIN.

Boundaries.—N., the Skager Rack ; W., the North Sea ; S., Hanover ; E., Mecklenburg Schwerin, the Baltic, the Sound, and the Cattegat. Lat. 53° 22'—57° 45' N. ; lon. 8° 5'—12° 35' E.

Copenhagen, the capital, on the central parallel, is in the same latitude as Edinburgh, Moscow, Ekaterinburg, Kamtschatka, and Nain in Labrador ; while the central meridian passes through Christiania, Kiel, Gotha, Lucca, Elba, and Tunis. The mainland is a peninsula resembling a cornucopia ; and, with the exception of Yucatan, is the only known peninsula of any extent that stretches northward : length, 300 miles ; greatest breadth, 185 miles. The surface consists of a level plain, elevated only a few feet above the sea, with a few eminences rarely exceeding 500 feet. The seaboard is very extensive, amounting to 1100

miles, without including the islands, being a higher ratio per square mile than any other European country, save Greece.

Area and Population.—Omitting the Duchies of Schleswig, Holstein, and Lauenburg, recently wrested from Denmark, the area is 14,809 square miles; but including Iceland and the Farøe Isles, it amounts to 54,840 square miles, or one and three-fourths the area of Scotland. In 1870 the total population of Denmark alone amounted to 1,784,000, or half that of Scotland.

Political Divisions.—The kingdom is divided into six provinces, the first two of which are now detached from Denmark.

Holstein and Lauenburg.—Glückstadt 6, Altona 67, Lauenburg 4 (Elbe), Rendsburg 12 (Eyder), Kiel 24 (Kiel Fiord).

Schleswig.—Schleswig 12 (Schlei Fiord), Flensburg 22 (Flensburg Fiord).

Jütland.—Aalborg* 8 (Lymfiord), Aarhus 7 (Cattegat).

Danish Archipelago.—COPENHAGEN 181, Elsinore 8 (Zealand), Odensee 11 (Fünen).

Iceland.—Reykjavik 1 (south-west coast).

Farøe Isles.—Thorshavn 1 (south coast of Strömøe).

Descriptive Notes.—*Glückstadt*, on the estuary of the Elbe, is the capital of the German province. *Altona*, an important trading and commercial city on the Elbe, opposite Hamburg, with shipbuilding docks, various manufactures, and an astronomical observatory. *Kiel*, at the head of the Schleswig-Holstein Canal, from which it derives its importance, is the seat of a university. *Flensburg*; the district between this town and Schleswig is called Angeln, and was anciently part of the country inhabited by the Angles, who, along with the Jutes and Saxons, invaded Britain in A.D. 449, and gave its present name to *England*. *Aalborg* ("Eלטown") derives its name from the great number of eels found near it in the Lymfiord. *Copenhagen* ("Merchants' Haven"), the capital of Denmark and the centre of its commerce, is situated on the eastern shore of the island of Zealand. It is an elegant city, very regularly built and strongly fortified. *Elsinore*, on the Sound, is the place where the "Sound dues," exacted from foreign vessels passing through the Strait, were formerly levied.

Capes.—The Skaw, the northernmost extremity of Denmark; Hertberg and Horn, W. of Jütland; North Cape and Skagen, W. of Iceland.

Islands.—Zealand, Fünen, Langeland, Laaland, Falster, and Moen, between Schleswig and Sweden; Bornholm, S. of Sweden; Iceland, E. of Greenland; Farøe Isles, between Iceland and the Shetland Isles.

Iceland lies 700 miles W. of Norway, 300 E. of Greenland, and immediately S. of the Polar Circle; area, 37,800 square miles; population, 64,600. The surface is mountainous, the highest peaks rising 6000 feet above the sea-level. The whole island is of volcanic origin, and no fewer than thirty volcanoes are enumerated, eight of which have been active within the last hundred years. Of these,

* Rules for pronouncing Danish proper names:—

a, e, i, o, u, same as in German; aa=a in *fall*; ae or ä=a in *fate*; ie=ie in *field*; io, same as u in *muse*; ei and ey=i in *pine*; ii or y=ü in German; oe or ö=ö in German; uu=u in *rule*.

d between two vowels=th in *this*; g final, nearly equal to h in *home*—in every other position it is hard, as in *go*; j=y in *yes*; v after a is diphthongal—thus *have*=hawn.

Mount Hecla, 5000 feet high, is the most celebrated. There are several boiling springs, one of which, the Great Geyser, throws a column of hot water from 80 to 150 feet high, and at the depth of 72 feet is 30° above the boiling point. The winters are severe, but the mean annual temperature (40° Fahr.) is higher than in any other country on the same latitude. The island is destitute of trees, and no grain of any kind can be raised; but cabbage and potatoes are cultivated. Fish and birds are the chief support of the inhabitants. The Icelanders belong to the Scandinavian race. Their language, called Norse or Icelandic, is merely old Danish, and is the least-corrupted dialect of the Scandinavian family of tongues. The only commerce of the island consists in the exchange of wool, butter, skins, fish, and oil, for European manufactures. The *Færøe Isles* consist of a group of twenty-two small islands, lying nearly midway between Iceland and Shetland, of which seventeen are inhabited; area, 510 square miles; population, 8651. They are of trap formation; the coasts are steep and rugged, and the interior mountainous. The winters are very mild; the summer is moist and foggy; longest day, twenty hours—shortest, four hours. Barley is the only grain that can be cultivated. The inhabitants, who are Scandinavians, occupy themselves in fishing, fowling, and tending sheep. Thorshavn, the capital, is a mere village.

Bays, Straits, and Fiords.—Skager Rack, between Jütland and Norway; Cattegat, between Jütland and Sweden; the Sound, between Zealand and Sweden; Great Belt, between Zealand and Fünen; Little Belt, between Fünen and Schleswig; Lymfiord, in N. of Jütland; Colberg Bay and Gulf of Lubeck, E. of Holstein.

Table of Rivers and Towns.—Owing to the peninsular character of the country, and the numerous deep indentations of the sea, the rivers of Denmark are all unimportant, with the exception of the Elbe, which forms its S.W. boundary. The country is also singularly destitute of large towns, there being only seven of more than 10,000 inhabitants.

<i>Rivers, &c.</i>	<i>Towns.</i>
The Sound,	COPENHAGEN, <i>Elsinore.</i>
Kiel Fiord,	Kiel.
Schlei Fiord,	SCHLESWIG.
Flensburg Fiord,	Flensburg.
Guden Aa,	<i>Randers.</i>
Cattegat,	<i>Aarhuus.</i>
Lymfiord,	AALBORG.
Eyder,	Rendsburg.
Elbe,	GLÜCKSTADT, Altona, LAUENBURG.

Climate, Products, &c.—Notwithstanding its higher latitude, the climate is much milder than in Germany. Storms are rare, and of short duration, but the sky is usually covered with clouds, and the annual quantity of rain is considerable. The mean annual temperature at Copenhagen is nearly 47°, winter 31°, and summer 63° Fahr.

Denmark is peculiarly devoid of minerals, except in the island of Bornholm, where an inferior kind of coal is obtained, together with building-stone, potters' clay, and blue marble. Coal and salt are imported, but peat or turf is the ordinary fuel. Vegetation succeeds surprisingly well, considering the latitude. The indigenous plants do

not differ much from those of Northern Germany. Forests are not extensive, and are chiefly confined to the east coast. The numerous marshy districts yield excellent pasturage, and the rearing of horses and cattle, and dairy produce, form the chief objects of rural industry. More corn is raised than is required for home consumption,—the principal crops being rye, barley, oats, wheat, and buckwheat, with potatoes, hemp, and tobacco. The larger wild animals have disappeared, with the exception of the wild boar, deer, stag, and roe; but the smaller quadrupeds are abundant.

Ethnography.—The people are all of the Teutonic stock. The inhabitants of Jütland, the Archipelago, and the northern part of Schleswig, are Danes or Normans, and speak the Danish language, which is closely allied to the Icelandic, the least adulterated of the Gothic family of tongues. The remainder of the population are nearly all Germans, and employ the German language.

The great mass of the population are Protestants of the Lutheran denomination, but other sects are freely tolerated. The people are well educated, and every adult inhabitant can read and write. The universities are two in number, those of Copenhagen and Kiel, both of which have a numerous staff of professors, are well attended, and possess excellent libraries.

Government, &c.—The government, formerly absolute, is now a constitutional monarchy; a Diet, consisting of an Upper and a Lower House, shares the supreme power with the sovereign. Christian, the present sovereign, father of our Princess of Wales, ascended the throne in November 1863. The King, as Duke of Holstein and Lauenburg, had a seat in the Germanic Diet. Denmark is one of the oldest monarchies in Europe, her line of sovereigns dating back to the commencement of the tenth century. The military force, in time of peace, numbers about 25,000 men; while the navy, in 1868, comprised 40 war vessels, carrying about 312 guns. The revenue and expenditure amount each to £2,900,500, and the public debt to £13,500,000. A considerable part of the revenue was formerly derived from the Sound dues, a tax levied on all foreign vessels passing through that strait; but by the treaty of 1857 these were abolished in respect to all the nations that signed the treaty.

Manufactures and Commerce.—The manufactures are unimportant, consisting chiefly of linen and woollen articles for home consumption. Brewing, distillation, and the construction of domestic utensils, are also extensively carried on. The exports, which consist chiefly of live stock, dairy produce, meat, hides, fish, and sulphur (from Iceland), amount to nearly £4,000,000 sterling and the imports, comprising colonial produce, manufactured articles, timber, and coals, to nearly £6,000,000. The principal ports are—Copenhagen, Altona, Kiel, Flensburg, and Aalborg. The commerce of the kingdom has been greatly improved since the acquisition of Altona, the opening of the canal of Kiel connecting the Eyder with the Baltic, and the introduction of railways, which now embrace 296 miles in operation.

Foreign Possessions.—In addition to Iceland and the Farøe Isles, already described, Denmark possesses the extensive region of Greenland, together with the Islands of St Croix, St Thomas, and St John, in the West Indies. The extra-European portion has an area of 46,878 square miles, and a population, in 1861, of 47,029; but this estimate embraces only those portions of Greenland not covered with glaciers.

THE GERMAN EMPIRE.

IN its widest acceptation, *Germany* is an ethnographical rather than a political term. It properly denotes that large portion of Central Europe in which the German race and language prevail, and which extends from the Baltic and North Sea to the Alps and Adriatic, and from the Rhine and Meuse to the Niemen and Carpathians. But the "German Empire" formed in December 1870 embraces only a portion of this extensive area—viz., the Kingdom of Prussia, together with all the minor states formerly known as Western Germany. The number of the latter is now reduced to twenty-six, Prussia having in 1866 absorbed Hanover, Hesse-Cassel, Nassau, Schleswig-Holstein, and Frankfür. In addition to these, the Empire now embraces Alsace and a portion of Lorraine, wrested from France in 1870. Total area, 212,091 square miles; population (in 1868), 40,111,265. Beginning at the west, we shall first treat of the Minor German States, and then of the Kingdom of Prussia.

I. MINOR GERMAN STATES.*

Boundaries.—N., the Baltic, Holstein, and North Sea; W., the Netherlands, Westphalia, Rhenish Prussia, and France; S., Switzerland and the Tyrol; E., the Archduchy of Austria, Bohemia, and Prussia. Lat. $54^{\circ} 16' - 47^{\circ} 20' N.$; lon. $6^{\circ} 40' - 15^{\circ} 3' E.$

Gotha, in the centre, is on the same parallel as Dover, Brussels, Dresden, Breslau, Lublin, Uralsk, and Irkutsk; and on the same meridian as Christiania, Kiel, Lucca, Elba, and Tunis. The form is extremely irregular, but consists of two main divisions, nearly separated from each other by portions of Prussia. Of these the southern is by far the larger, and remotely resembles a square, while

* As the result of the Continental war of 1866, Prussia has absorbed Hanover, Electoral Hesse, Nassau, Schleswig-Holstein, Frankfür, together with portions of Bavaria and Hesse-Darmstadt; in all, 27,810 sq. m., and 4,235,700 of population.

the northern is triangular, with the apex pointing southward. Surface, low, and extremely level in the north, hilly in the central states, and in the south consisting of an elevated plain from 1500 to 2000 feet high. Coast-line not exceeding 200 miles, of which 80 belong to the Baltic and 120 to the North Sea; but the principal rivers being all navigable, there is no lack of water-communication.

Area and Population.—The area of the Minor German States is 75,025 square miles, or one-fifth more than Great Britain; while the population in 1868 amounted to 16,004,418, being half that of the British Isles.

Political Divisions.—Western Germany, before the late war, embraced thirty sovereign states, which we may conveniently classify into three groups—viz., Northern, Central, and Southern States.

THIRTEEN NORTHERN STATES.

Hanover.—Hanover* 74, Göttingen 10 (Leine, *affl.* Aller), Zelle 12 (Aller), Clausthal 10 (Zellerbach), Lüneburg 12 (Ilmenau), Emden 12 (Ems), Osnabrück 12 (Hase).

Oldenburg.—Oldenburg 8 (Hunte, *affl.* Weser).

Mecklenburg-Schwerin.—Schwerin 25 (L. Schwerin), Rostock 29 (Warnow), Wismar 13 (N. coast).

Mecklenburg-Strelitz.—Neu-Strelitz 7 n. (Havel, *affl.* Elbe).

Brunswick.—Brunswick 50 (Ocker, *affl.* Aller).

Lippe-Detmold.—Detmold 5 (Werre, *affl.* Weser).

Lippe-Schaumburg.—Bückeburg 2 (Aue, *affl.* Weser).

Anhalt-Dessau-Köthen.—Dessau 12 (Mulde, *affl.* Elbe).

Anhalt-Bernburg.—Bernburg 7 (Saale, *affl.* Elbe).

Free Cities.—Frankfurt 79 (Maine), Bremen 85 (Weser), Hamburg 220 (Elbe), Lübeck 37 (Trave).

THIRTEEN CENTRAL STATES.

Nassau.—Wiesbaden 12 (Salzbach, *affl.* Rhine).

Waldeck.—Arolsen 2 n. (Diemel, *affl.* Weser).

Hesse-Darmstadt.—Darmstadt 36 (Darm, *affl.* Rhine), Mentz 51, Worms 10 (Rhine), Offenbach 13 (Maine).

Hesse-Homburg.—Homburg 5 n. (Nedda, *affl.* Maine).

Hesse-Cassel.—Cassel 42 (Fulda, *affl.* Weser), Schmalkalden 5 n. (Werra), Hanau 15 (Maine).

Schwartzburg-Sondershausen.—Sondershausen 5 (Wipper, *sub-affl.* Elbe).

Schwartzburg-Rudolstadt.—Rudolstadt 5 (Saale, *affl.* Elbe).

Saxe-Coburg-Gotha.—Gotha 14 (Leine, *sub-affl.* Elbe), Coburg 10 (Itz).

Saxe-Meiningen-Hildburghausen.—Meiningen 7 (Werra, *affl.* Weser).

* Rules for pronouncing German proper names:—

a has two sounds, as in far, fat; *e* is either long, like *a* in fate, or short, as in met; *i* long, as in machine, short, as in sit; *u* long, as in rule, short, as in full; *y*, same as *i* in German; *ä* or *ae*, as *a* in fate; *ai*, *ay*, *ei*, *ey* = *ey* in eye; *au* = *ou* in our; *äu* and *eu* = *oi* in oil; *ie* = *ie* in field; *oe*, *ö* = *eu* in French, or *ao* in Celtic; *ue*, *ü* = *u* in French *bruler*—it has no corresponding sound in English.

b, *d* final = English *p* and *t*; *c* before *e*, *i*, and *y* = *ts*; *ch* = *ch* in loch, or *gh* in Lough; *g* is always hard, as in gone; *h* is pronounced only at the beginning of a syllable, but after a vowel it lengthens the vowel; *j* = *y* in yes; *s* initial, or between two vowels = *s* in rose; *ss* and *sz* = *s* in this; *sch* = *sh* in shine; *th* = *t*; *v* = *f* in English, except between two vowels, but then = English *v*; *w* is nearly equal to English *v*; *s* and *ts* = *ts* in sits.

Saxe-Weimar-Eisenach.—Weimar 11 (Ilm, *sub-aff.* Elbe), Jena 7 (Saale).

Saxe-Altenburg.—Altenburg 16 (Pleisse, *sub-aff.* Elbe).

Reuss.—Greitz 7, Gera 11 (White Elster, *sub-aff.* Elbe).

Saxony.—Dresden 156 (Elbe), Leipsic 91 (White Elster), Zwickau 9 (Mulde), Freiberg 21 (Munzbach), Chemnitz 59 (Chemnitz).

FOUR SOUTHERN STATES.

Bavaria.—Munich 170 (Isar, *aff.* Danube), Passau 11, Regensburg 30 (Danube), Augsburg 50 (Lech), Speyer 10 (Rhine), Würzburg 42 (Maine), Bamberg 26, Erlangen 12, Fürth 16 (Regnitz), Nürnberg 78 (Pegnitz), Anspach 14 (Rezatz), Baireuth 17 (Red Maine).

Württemberg.—Stuttgart 75 (Nesenbach, *aff.* Neckar), Reutlingen 12 (Eschatz), Heilbroun 14, Ludwigsburg 11, Esslingen 15 (Neckar), Ulm 25 (Danube).

Baden.—Carlsruhe 32 n., Mannheim 34 (Rhine), Heidelberg 16 (Neckar), Freiburg 21 (Dreisam), Constance 7 (L. of Constance).

Alsace and Lorraine.—Strasbourg 84 (Rhine), Metz 55 (Moselle).

Descriptive Notes.—The twenty-five minor States contain three towns of above 100,000 inhabitants (Hamburg, Munich, Dresden); seven between 100,000 and 50,000 (Leipsic, Nürnberg, Stuttgart, Bremen, Chemnitz, Brunswick, Augsburg); fifteen between 50,000 and 20,000; and fifty between 20,000 and 10,000.

NORTHERN STATES.—*Hanover*, cap. of the late kingdom of same name, is a well-built trading and manufacturing city on the Leine, and the birthplace of the celebrated astronomer Sir W. Herschel. *Göttingen*, the seat of a famous university. *Clausthal*, capital of the mining district of the Harz. *Emden*, the most commercial town in Hanover, and its only seaport. *Osnabrück* is noted for its coarse linens, called Osnaburgs. *Oldenburg*, capital of the grand-duchy of same name, is the residence of the Grand-duke. *Schwerin*, the residence of the Grand-duke of Mecklenburg-Schwerin, who represents the oldest reigning family in Europe. *Rostock*, near the mouth of the Warnow, has a university, and considerable export trade in cattle. *Wismar*, a fortified seaport town, with considerable commerce. *Brunswick*, capital of a duchy of same name, is a large city on the Ocker, with considerable trade, a magnificent palace, and a museum. *Frankfurt*, formerly a free city, and the federal cap. of Germany, is a place of great inland trade, and the centre of extensive banking transactions. It was annexed to Prussia in 1866. *Bremen*, a populous free city on the Weser, 40 miles above its mouth, ranks after Hamburg in point of commercial importance, and is the great *entrepôt* for Hanover, Oldenburg, and Hesse-Cassel. *Hamburg*, a celebrated free city on the Elbe, 70 miles from its mouth, is the largest and most important city in Germany, and, in regard to commerce, inferior to none on the Continent. *Lübeck*, on the Trave, 36 miles N.E. of Hamburg, and one of the four free cities, has great fairs and extensive commerce. *Lubeck* was an original member of the famous Hanseatic League, which was formed in 1241 for the protection of commerce, and which at one time embraced all the principal trading towns in Europe.

CENTRAL STATES.—*Wiesbaden*, capital of the Duchy of Nassau, is one of the principal watering-places in Germany. *Darmstadt*, capital of Grand Duchy of Hesse-Darmstadt, is a handsome town, noted for its magnificent ducal library. *Mentz*, or *Mayence* (Ger. Mainz), the birthplace of Guttenberg, the inventor of printing (1440), is strongly fortified by the Germanic Confederation. *Worms*: here in 1521 was held the famous Diet of Worms, before which Luther appeared. *Offenbach*, the chief commercial town in Hesse-Darmstadt, noted for carriage-building and for gingerbread nuts. *Cassel*, cap. of late Electorate of Hesse-Cassel, and *Hanau*, are important manufacturing towns. *Schmalkalden*: here, in 1531, was formed the famous Protestant League. *Gotha*, capital of Duchy of Saxe-Coburg-Gotha, is an important manufacturing town on the Leine, with numerous literary and scientific establishments. Here, since 1764, has been annually published the cele-

brated '*Almanach de Gotha*,' the highest statistical authority on the Continent. *Coburg*; near it is the country-seat of Rosenau, the birthplace of the late Prince Albert, Consort of Queen Victoria. *Weimar*, capital of Grand-duchy of Saxe-Weimar, has been the residence of many men of genius, amongst others of Goethe, Schiller, Herder, and Wieland. *Jena*: here, in 1806, the French, under Napoleon I., totally defeated the Prussians. *Altenburg*, a thriving town, with various manufactures. *Dresden*, capital of the kingdom of Saxony, on the Elbe, is in point of population the third city of Western Germany, and is noted for its royal library, its rich collections of paintings, sculptures, and antiquities, and for its beautiful china and porcelain ware. *Leipzig*, the great emporium of the German book trade, and the seat of a famous university, is a populous commercial city, where are held three great annual fairs, frequented by merchants from all parts of Europe and Asia. *Freiberg*, in the mining district of Saxony, contains a celebrated mining school, and a museum bequeathed by Werner, containing 100,000 specimens. *Chemnitz*, the Manchester of Saxony, is the principal manufacturing town in the kingdom.

SOUTHERN STATES.—*Munich*, capital of the kingdom of Bavaria, and, with exception of Hamburg, the most populous city in Western Germany, contains many magnificent public buildings, among which are the university with 76 professors, the royal library with 800,000 volumes, and the cathedral. *Regensburg* or *Ratisbon*, at the confluence of the Regen with the Danube, is of great historic fame as an old imperial city; it was the meeting-place of the imperial Diet from 1662 till 1806; near it the Walhalla, a splendid Doric temple, erected to receive the statues of distinguished Germans. *Augsburg*, the principal arsenal of the kingdom and the seat of commerce of Southern Germany, is chiefly celebrated for the Confession of Faith which the Protestants presented here to Charles V. in 1530. *Speyer* or *Spire*: here the Reformers, in 1529, presented to the Emperor the famous protest, in consequence of which they were ever afterwards called Protestants. *Würzburg*, a fortified city on the Maine, with an ancient university. *Nürnberg*, or *Nuremberg*, the chief seat of manufactures in the kingdom, is famous as the place where the watch, musket, clarion, gun-carriages, and many other articles were invented. *Stuttgart*, capital of the kingdom of Württemberg, contains the royal palace, adorned by Flemish paintings and sculptures by Danneker and Canova; a royal library of 50,000 volumes, including a unique collection of 12,000 bibles, in sixty-eight different languages; and a public library of 200,000 volumes. *Ulm*, an old imperial city on the Danube, where it begins to be navigable, contains one of the finest cathedrals in Europe. It was taken by Napoleon in 1805. *Carlsruhe*, capital of Grand-duchy of Baden, 4 miles E. of the Rhine, an elegantly-built city, with its 32 streets diverging from the palace like the rays of a fan. *Mannheim*, at the confluence of the Rhine and Neckar, is considered the most regularly built town in Germany, and exceeds the capital both in population and commerce. *Heidelberg*, on the Neckar, is noted for its romantic scenery, its flourishing university, and the remains of the ancient palace of the Electors-Palatine, beneath which is the famous "Tun of Heidelberg," capable of containing 5000 gallons. *Constance*, on the S. shore of the lake of that name, near the efflux of the Rhine, is celebrated as the seat of the Council which condemned the tenets of Wickliffe. *Strasbourg*, *Metz*, &c., see under France, p. 74.

Cape.—Ritzbüttel Head, in Hanover, between the mouths of the Elbe and Weser, is the only important headland.

Islands.—Wangeroge, Spikeroge, Norderney, &c., small islands, N.W. of Hanover.

Gulfs and Estuaries.—Gulf of Lubeck, at the mouth of the Trave; estuaries of the Elbe, Weser, and Ems, in the N.W.

Mountains.—Western Germany is mountainous in the south, hilly in the centre, while the north, forming a portion of the great European plain, is low and extremely level. A branch of the Rhetian Alps from Austria forms the southern boundary of Bavaria, Württemberg, and Baden, separating the Inn from the Isar, and the basin of the Rhine from that of the Danube, but nowhere

attaining the limit of perennial snow, which in the Alps has an elevation of 8500 feet. Proceeding northwards, the different ranges are as follows :—

The *Schwarzwald*, or “Black Forest,” in Baden, separates the Rhine from the Neckar; maximum elevation, 4600 feet.

The *Rauhe Alp*, or Swabian Alps, in Württemberg, between the Danube and Neckar, 3300 feet.

The *Böhmerwald*, between Bavaria and Bohemia, separates the Danube from the Moldau, an affluent of the Elbe, 4613 feet.

The *Erzgebirge*, between Saxony and Bohemia, separates the basins of the Elbe and Danube, 2500 feet.

The *Fichtelgebirge*, in the N.E. of Bavaria, separates the affluents of the Danube from the rivers that find their way northward, 3480 feet.

The *Thuringerwald*, in the Sachsen States, and between the sources of the Werra and Saale, 3286 feet.

The *Rhöngebirge*, in the N.W. of Bavaria, separates the Fulda and Werra from the Kinzig and Maine, 2300 feet.

The *Odenwald*, in Hesse Darmstadt, forms a continuation of the Schwarzwald, and separates the Maine from the Neckar, 2300 feet.

The *Westerwald*, in Nassau, between the Sieg and Lahn, 2850 feet.

The *Eifel*, in Rhenish Prussia, between the Moselle and Ahr, 2200 feet.

The *Harzgebirge*, or Harz Mountains, in Brunswick and the S. of Hanover, between the Weser and the Elbe, 3230 feet.

Table of Rivers and Towns.—For the complete river-system of Central Europe, see under “Austria.”

Lakes.—Lake of Constance, or Boden See, on the southern boundary, drained by the Rhine; Ammer See, Wurm See, and Chiem See, in Bavaria, drained by affluents of the Isar and Inn; Müritz and Plau, in Mecklenburg Schwerin, drained by the Elde; Schwerin, drained by the Stör.

Climate.—In the northern plain, which is exposed to winds blowing from the North Sea and Baltic, the summer is mild, humid, and variable; but the winters are long and severe, the lakes and rivers being covered with thick ice, and the ground with deep snow, for three or four months in the year. The centre and south are much drier, the sky being usually serene, and the temperature less subject to sudden variations. Owing to the greater elevation of the centre and south, the mean annual temperature (49°) is nearly the same in all parts of the country; summer temperature, 65°; winter, 32½°; average rain, 22½ inches in the north, but 28 in Bavaria.

Products.—Minerals are very abundant, especially in the *Erzgebirge* and Harz Mountains, the former containing metals in great variety, besides numerous precious stones; and the latter, mines of iron, copper, lead, salt, coal, alum, and sulphur.

Salt, coal, copper, manganese, cobalt, mercury, and ironstone, are common in Bavaria; iron, coal, silver, copper, cobalt, and lead, in Württemberg and Baden; and coal in Hanover and Saxony, where mining forms the most important branch of industry. The principal mineral springs are those of Wiesbaden, Ems, and Nieder-Selters, in Nassau; Pyrmont, in Waldeck; Kissingen and Rosenheim, in Bavaria; Wildbad, in Württemberg; and Baden-Baden, in the Grand-duchy of

Baden. The flora of Germany (using the term in its widest acceptation) embraces about 7000 indigenous plants, of which 2566 are flowering species. Of the vast forests which formerly covered the country, there still exist considerable remains, especially in the Schwarzwald, Böhmerwald, and Harz ranges. The soil is moderately fertile; all kinds of corn are raised, not excepting maize; the vine thrives well in the valley of the Rhine; while tobacco, hops, beetroot, flax, and hemp, are cultivated in most of the states. The mammals of Germany (including bats) are estimated at 78 species, the birds at 305, the reptiles at 31, and the fishes at about 200. The more formidable carnivora, as the lion and tiger, are unknown; but the bear and the chamois are found in the Alps, the wolf and hamster in the Harz, and the lynx, fox, marten, weasel, wild boar, and deer, in many places.

Ethnography.—The people of Western Germany belong almost exclusively to the Teutonic stock; but there is an admixture of Slavonic blood in Mecklenburg, Saxony, and Southern Bavaria, and of Celtic in Württemberg, Baden, and Northern Bavaria.

The German *language*, in one or other of its dialects, is the only spoken tongue—the Low German being confined to the north, and the German Proper, or High German, to the centre and south. The latter has been cultivated since the time of Luther, whose mother-tongue it was, and who made it the vehicle of spreading the principles of the Reformation. About two-thirds of the population of Western Germany profess the Protestant *religion*, nearly all the remainder being “Catholics,” who form the majority in Bavaria and Baden. The Protestants are divided into Lutherans and Reformed, the former of which are by far the most numerous. Many Jews are found in the large towns, and all denominations are tolerated. *Education* is in a highly flourishing condition, especially in Saxony and the Central States, where one-sixth of the population are constantly at school. In Western Germany alone there are twelve universities—viz., at Munich, Würzburg, Erlangen, Tübingen, Heidelberg, Freiburg, Leipsic, Göttingen, Rostock, Jena, Giessen, and Marburg—besides numerous gymnasia, lyceums, academies, learned societies, and richly furnished libraries. Accordingly, no other part of the Continent can boast of such a galaxy of writers and men of genius in every department of literature and science (see the author’s ‘Manual,’ p. 247).

Government and Finance.—Each of the states of Western Germany exercised a sovereign and independent control over its own internal affairs, but could not declare war or establish peace without the consent of the Federal government, known as the “Germanic Confederation.” This union, now abolished, consisting of the thirty minor states above enumerated, together with Austria, Prussia, Holland, and Denmark (each of which had a portion of its dominions lying within the wide territory denominated Germany), was established by the celebrated Congress of Vienna, in 1815, for the purpose of mutual protection and defence.

The Confederation conducted its business by a diet or parliament, which met at Frankfurt-on-the-Maine, and was presided over by the Emperor of Austria. In this assembly each state had one or more votes, according to its rank, and each was required to supply its contingent to the Federal army, which numbered about half a million men, with upwards of 1350 guns. The character of the different governments varied

considerably; but most of them were constitutional monarchies, in which the power was divided between the sovereign and a legislative chamber; and each state, however insignificant, had its own capital, its own exchequer, public debt, revenue, and expenditure. The union of all these petty states has been long seen to be a first necessity, but the fitting occasion was not found till, in 1870, France waged war against Prussia. That state then rallied around her all the minor ones, vanquished France, wrested from her Alsace and Lorraine, and formed the whole into an empire, with the King of Prussia for its head.

Manufactures and Commerce.—The manufactures are not very important, except those of Saxony, which, though less extensive, are as varied as in England. Its porcelain-ware and woollens are justly celebrated—the former being the product of a very fine variety of clay, and the latter of merino wool of the best quality. Mining is extensively carried on in the northern and central states, linen-weaving in Hanover, vine-husbandry in Baden and Bavaria, and agriculture and pastoral occupations in nearly all parts of the country. Printed books form an important branch of the trade of Germany, the annual fair at Leipsic being perhaps the greatest literary mart in the world.

Previous to the establishment of the Zollverein or Customs' League, in 1818, commerce was greatly trammelled by each petty state exacting dues from every vessel that touched its frontier. Now, however, only one charge is levied, and the proceeds are divided among the various states forming the union, in the ratio of their respective populations. The inland communication is in a highly efficient state, both by land and water. In 1870, the number of miles of railway open for traffic in the entire German Empire was 6549, besides 4367 in course of construction.

II. PRUSSIA.

Prussia having gone to war with Austria in 1866, the contest ended by Prussia expelling Austria from the Germanic Confederation, and by annexing to her own dominions all the minor states that had aided her antagonist in the conflict—viz., Hanover, Nassau, Hesse-Cassel, Hesse-Homburg, and Frankfurt. She also annexed Schleswig-Holstein, Lauenburg, together with portions of Hesse-Darmstadt and Bavaria.

Boundaries.—Prussia is now bounded on the N. by the Baltic, Jütland, and the North Sea; W., by the Netherlands and Belgium; S., by Baden, Bavaria, and Bohemia; and E., by Russia. Lat. 49° 13'—55° 50' N.; lon. 5° 52'—23° W.

Berlin, near the centre, is on the same parallel as Cambridge, Amsterdam, Hanover, Warsaw, and Samara; and on the same meridian as Copenhagen, Neustrelitz, Trieste, Naples, Malta, and Tripoli. The country being mainly embraced within the great northern plain, the surface is extremely level; the coast-line,

which does not exceed 800 miles in length, is low, and for the most part confined to the Baltic.

Area and Population.—Including Hanover, Nassau, Hesse-Cassel, Schleswig-Holstein, and Frankfurt, acquired by Prussia in the late war, the area now amounts to 137,066 sq. m., and the population to 24,106,847. This area considerably exceeds that of the British Isles, but the population does not equal that of Great Britain.

Political Divisions.—The Prussian monarchy now embraces twelve provinces, two of which (Prussia Proper and Posen) are beyond the limits of Germany. For the four new provinces, see under "Minor German States" and Denmark.

Prussia Proper (including East and West Prussia).—Königsberg 106 (Pregel), Memel 18, Tilsit 16 (Niemen), Elbing 28 (Elbing), Danzig 90, Thorn 16 (Vistula).

Posen, or Prussian Poland.—Posen 53 (Wartha, *aff.* Oder).^{*}

Silesia.—Breslau 172, Glogau 18 (Oder), Görlitz 37 (Lower Neisse), Liegnitz 20 (Katzbach), Neisse 19 (Upper Neisse).

Pomerania.—Stettin 74 (Oder), Stralsund 28 (Strait of Gellen).

Brandenburg.—BERLIN 702 (Spree *sub-aff.* Elbe), Brandenburg 24, Potsdam 42 (Havel), Frankfurt 41 (Oder).

Prussian Saxony.—Magdeburg 79, Wittenberg 9 (Elbe), Halle 49 (Saale), Quedlinburg 16 (Bode), Halberstadt 23 (Holzemme), Eisleben 10 (Böse), Mühlhausen 16 (Unstruth), Erfurt 42 (Gera).

Westphalia.—Münster 25 (Ahe, *aff.* Ems), Minden 15 (Weser), Dortmund 23 (Emster).

Rhenish Prussia.—Cologne 125, Crefeld 54 n., Düsseldorf 43, Bonn 24, Coblenz 29 (Rhine), Elberfeld 65, Barmen 65 (Wipper), Treves or Trier 21 (Moselle), Aix-la-Chapelle or Aachen 68 (Würm).

Descriptive Notes.—Prussia contains four towns above 100,000 inhabitants (Berlin, Breslau, Cologne, Königsberg); twelve between 100,000 and 50,000 (Danzig, Magdeburg, Frankfurt-on-Maine, Hanover, Stettin, Aix-la-Chapelle, Altona, Elberfeld, Barmen, Düsseldorf, Crefeld, Posen); twenty-four between 50,000 and 20,000; and eighty between 20,000 and 10,000.

Königsberg, capital of Prussia Proper, and formerly of East Prussia, is a large, manufacturing, commercial city, on the Pregel, near its mouth in the Frische Haff; it contains a celebrated university, of which Immanuel Kant was one of the professors, and an observatory, rendered famous by the astronomer Bessel. **Memel**, at the mouth of the Curische Haff, gives name to the Baltic timber which is largely exported from it, and is a great depot for corn, tallow, and other Russian produce. **Tilsit**, memorable for the treaty between France, Russia, and Prussia in 1807, which for a time deprived Prussia of all her possessions between the Rhine and the Elbe. **Danzig**, a large fortified city near the mouth of the Vistula, and one of the greatest corn-shipping ports in the world, is the birthplace of Fahrenheit, the inventor of the thermometer. **Thorn**, the birthplace of Copernicus, in 1473. **Posen**, once the capital of the kingdom of Poland, is a fortified city on the Wartha, largely engaged in the export of agricultural produce. **Breslau**, on the Oder, the second city in Prussia in point of population, and the great emporium for the linens of Silesia, is the birthplace of Schleiermacher the theologian, and of Wolff the mathematician, and contains a flourishing university, adorned by many eminent names. **Liegnitz**: here the Prussians, under Frederick the Great, totally defeated the Austrians in 1740; and here, under Blücher, they routed the French in 1813. **Stettin**, a populous and fortified city, near the mouth of the Oder, and, next to Danzig, the chief seaport of the kingdom. **Berlin**, capital of Prussia and of the province Brandenburg, is an elegant city on the Spree, with above half a million inhabitants. Next to Vienna, it is the largest and finest city in Germany, and is famous for its university, which reckons among its professors many of the most illustrious names in modern literature; it is also

noted for the variety and extent of its manufactures, among the most remarkable of which are its beautiful cast-iron articles called "Berlin jewellery." *Potsdam*, the birthplace of Alexander Von Humboldt, and the burial-place of Frederick the Great, is, next to Berlin, the handsomest city in Prussia, and one of the royal residences. *Frankfurt*, an important city on the Oder, near the centre of the kingdom, is the seat of three great annual fairs, attended by merchants from all parts of Europe. *Magdeburg*, capital of Prussian Saxony, an ancient and populous city on the Elbe, possesses great trade, and is the strongest fortress in the kingdom. *Wittenberg*, the cradle of the Reformation, contains the tombs of Luther and Melancthon. *Halle*, the seat of a celebrated university, is the birthplace of Handel the musician. *Quedlinburg*, the birthplace of Klopstock, and of Karl Ritter, the eminent geographer. *Eisleben*, the birthplace of Luther (in 1483). *Erfurt*, a fortified, manufacturing city on the Gera, where Luther spent the greater part of his life. *Münster*, capital of Westphalia: here, in 1648, was concluded the treaty of Westphalia, which put an end to the Thirty Years' War, and secured religious liberty to the Protestants. *Cologne*, by far the most important and populous city in the western division of the kingdom, stands on the left bank of the Rhine, which affords it great commercial facilities. Its cathedral is one of the finest in Europe: but the city is chiefly noted for its distilled waters, called "Eau-de-Cologne," of which a million flasks are exported annually; and for being the birthplace of Rubens, the celebrated painter, and of Schwarz, the reputed inventor of gunpowder, in 1330. *Crefeld*, the principal place in Prussia for the manufacture of silk goods. *Düsseldorf*, a flourishing commercial city, with a bridge of boats across the Rhine. *Bonn*, the birthplace of Beethoven the composer, contains one of the most famous universities in Germany. *Coblenz*, at the confluence of the Rhine and Moselle (to which circumstance it owes its name), occupies a beautiful situation. *Elberfeld* and *Barmen* are great seats of the cotton, silk, and thread manufacture. *Trees* (Germ. *Trier*), believed to be the oldest city in Germany, was at one time the residence of Constantine the Great: here the Roman Catholic priests exhibit a coat, which they pretend is the seamless coat of our Saviour. *Aix-la-Chapelle* (Germ. *Aachen*), the residence and burial-place of Charlemagne, is noted for its thermal waters of high temperature: here were crowned the emperors of Germany till 1531.

Capes and Islands.—Capes Dars and Arcona, N.W. of Pomerania; Rixhoff Pt. and Bruster Hd., N. of Prussia Proper. Rügen I., N.W. of Pomerania; Usedom and Wollin, at the mouth of the Oder.

Gulfs, Bays, and Straits.—Strait of Gellen, between Pomerania and Rügen; Stettiner Haff, at the mouth of the Oder; Gulf of Danzig and Frische Haff, at the mouth of the Vistula; Curische Haff, at the mouth of the Niemen.

Mountains.—The only mountains of importance are the *Harzgebirge* or Harz Mountains, in the S.W. of Saxony, between the Weser and the Elbe, 3230 feet; the *Riesengebirge* and *Sudetic Mountains*, between Silesia and Bohemia, 5275 feet; and the *Eifelgebirge*, in Rhenish Prussia, 2200 feet (see p. 96).

Table of Rivers and Towns.—See under "AUSTRIA."

Lakes.—Mauer See and Spirding See in Prussia Proper, drained by affluents of the Narew and Pregel.

Climate.—The climate greatly resembles that of Western Germany, the summers being warm, humid, and variable, and the winters very cold and salubrious. In Rhenish Prussia the vine is successfully cultivated. At Berlin, near the centre of the kingdom, the mean annual temperature is 48°, summer 64°, winter 31° Fahr.; number of rainy days 160; annual fall of rain 20 inches.

Products.—The most characteristic mineral of Prussia Proper is amber, a fossil resin, which occurs in beds of lignite on the Baltic

coast, and which is exported to Turkey and other places to be employed as mouth-pieces for tobacco-pipes. Valuable mines of coal and zinc are wrought in Silesia; coal, iron, lead, copper, and mineral springs abound in the Rhenish provinces; while recently have been discovered inexhaustible deposits of pure rock-salt in Pomerania, near Stettin, whence it can be shipped at a very low price. The vegetation of the country does not differ much from that of Germany (which see). Agriculture is well conducted, especially in the German provinces, and considerably more corn is raised than is required for home consumption. Rye is the favourite grain, and forms, with potatoes, the principal food of the people; but wheat, barley, oats, beetroot, flax, hemp, chicory, and tobacco, are extensively cultivated. Forests occupy large tracts of the country. Fruit-trees do not form an important article of husbandry, but wine of an excellent quality is made in the valleys of the Rhine and Moselle. Merino sheep are reared in vast numbers, their wool constituting the great staple of the country. The wild animals are the same as in Western Germany.

Ethnography.—Germans form the majority of the population in the six Germanic provinces; but Sclavonians preponderate in Posen, Prussia Proper, and a part of Upper Silesia, where they speak the Polish and Slovakish languages. Another Sclavonic tongue, the Wendish, prevails in the centre of Pomerania, but the Old Prussian, once spoken by the Prusci, in Prussia Proper, is now extinct.

Nearly two-thirds of the population are Protestants, chiefly Calvinists; the remaining third being nearly all "Catholics," who form a majority in the Rhenish and Polish provinces. Prussia is celebrated for having the most perfectly organised system of national education in the world. Besides the 24,000 elementary schools, at which attendance is compulsory between the ages of five and fifteen, there are numerous higher schools and gymnasia preparatory to admission into the universities. The proficiency of the pupils when quitting the gymnasium is, generally, of a higher order than with us when leaving the university; while in the universities it is, beyond comparison, superior to anything we have in this country. There are six universities in Prussia—viz., those of Berlin, Halle, Bonn, Breslau, Greifswalde, and Königsberg, the three first of which are the most famous.

Government and Finance.—The Government is an hereditary monarchy; reigning sovereign, William I., now Emperor of Germany. The emperor's son, and heir-presumptive to the throne, married the Princess-Royal of England in 1858.

Previous to the war with Austria in 1866, and with France in 1870, the kingdom consisted of numerous territories separated from each other by minor, and sometimes hostile, states. The latter being now absorbed, her dominions are now much more compact; she is also in federal relation with all the remaining minor states. She has the disposal of all their troops in time of war, and has become the paramount power in all Germany. In 1870, the combined army amounted to upwards of 9,000,000 of men, and the navy to 87 war-vessels with 547 guns. The revenue and expenditure amount to about £25,000,000 each, and the public debt to £62,000,000.

Manufactures and Commerce.—Prussia stands high in manufacturing industry. Domestic weaving has long been general, but it is only recently that machinery was introduced.

In Silesia and the Rhenish provinces, where coal abounds, linen, woollen, silk, and cotton manufactures are carried on with the greatest activity. Cast-iron articles, of exquisite workmanship, are made at Berlin, earthenware in Saxony, paper and leather in many places. Trade is very active, being greatly facilitated by the establishment of the "Zollverein," or Customs' Union (see under "Western Germany"), and by the highly efficient state of the internal communication, consisting of many navigable rivers, excellent roads, and a few important canals. Extensive lines of railway also connect the capital with all the principal provincial towns, the number of miles in operation in 1867 being 3650.

A U S T R I A.

Boundaries.—N., Poland, Silesia, and the kingdom of Saxony; W., Bavaria and Switzerland; S., Venetia, the Adriatic, and Turkey; E., Moldavia and West Russia. Lat. 42°—51° N.; lon. 9° 36'—26° 35' E.

Vienna, the capital, in the centre of the empire, is on the same parallel as Brest, Munich, Czernowitz, Iekaterinoslav, Ourga, the capital of Vancouver I., and St John's (Newfoundland); and on the same meridian as Stockholm, Posen, Cape Spartivento, Lake Tchad, and the mouth of the Orange River. Omitting the Tyrol and Dalmatia, the general form is that of an oblong square, 670 miles by 420; but the extreme length of the empire, from Lake Constance to Moldavia, is about 800 miles; and the greatest breadth, from N. to S., 690 miles. Surface, for the most part, highly mountainous, though embracing several extensive plains (as in Hungary, Lower Austria, and Galicia); coast-line not exceeding 480 miles, and wholly confined to the eastern side of the Adriatic.

Area and Population.—By the cession of Lombardy and Venetia to Italy, the area is reduced to 240,238 square miles, or rather less than twice the area of the British Isles; while the population in 1869 was estimated at 36,000,000, being about one-sixth more than that of the United Kingdom. About one-third of this area and population is included within the limits of Germany.

Political Divisions.—The empire is usually regarded as consisting of sixteen provinces, nine of which are German, one Polish, and six Hungarian. Venetia was ceded to Italy in 1866.

NINE GERMAN PROVINCES.

Bohemia.—Prague 157 (Moldau, *affl.* Elbe), Pilsen 10 (Beraun), Töplitz 3, Königgrätz 10 (Elbe), Karlsbad 5, Eger 11 (Eger), Reichenberg 18 (Lower Neisse).

Silesia.—Troppau 14 (Oppa, *affl.* Oder), Teschen 7 (Olśa).

Moravia.—Brün 73 (Schwartza, *sub-affl.* Morava), Iglau 18 (Iglawa), Olmütz 15 (Morava), Austerlitz (Litawa).

Lower Austria.—Vienna 608 (Danube), Baden 5 (Schwächat).

Upper Austria.—Linz 31 (Danube), Steyer 10 (Ena).

Salzburg.—Salzburg 17 (Salza, *affl.* Inn).

Styria.—Grätz 81 (Mur, *affl.* Drave).

Illyria.—Laybach 21 (Laybach, *affl.* Save), Klagenfurt 14 (Glan), Görz 11 (Isonzo), Idria 5 (Idria), Trieste 70 (Gulf of Trieste).

Tyrol.—Innsbrück 14 (Inn, *affl.* Danube), Trent 18 (Adige).

ONE POLISH PROVINCE.

Galicia.—Lemberg 87 (Peltew, *affl.* Bug), Cracow 50, Wieliczka 5 n. (Vistula), Bochnia 5 (Raba), Czernowitz 34, Kołomea 13 (Pruth), Tarnopol 17 (Sered), Drohobicz 12 (Tiszmanicka), Brody 18 (Styr).

SIX HUNGARIAN PROVINCES.

Hungary Proper.—Buda or Ofen 55, Pesth 202, Komorn 20, Presburg 44 (Danube), Szegedin 69, Vasarhely 33 n., Szentcs 22, Keszketmet 42 n., Tokay 6 (Theiss), Mako 22, Arad 27 (Maros), Bekes 18, Czaba 23 (Körös), Grosswardein 21 (Sebes Körös), Debreczin 44 n. (Koselo), Kaschau 12 (Hernad), Miskoltz 28 (Sajo), Eperies 9 (Tarcza), Stühlweissenburg 23 (Sarvitz), Schemnitz 20 n., Kremnitz 5 n., Neusohl 12 (Gran), Raab 20 (Raab), Vasarhely-Somlo 25 (Torna), Oedenburg 12 n. (Raabnitz).

Transylvania.—Klausenburg 25 (Szamos, *affl.* Theiss), Karlsburg 12 (Maros), Kronstadt 28 n. (Aluta), Hermanstadt 20 (Zibin).¹

Banat and Servia.—Temeswar 33 n. (Temes, *affl.* Danube), Versetz 21 n. (Karash), Neusatz 20, Zombor 22 n. (Danube), Theresianopol or Theresienstadt 53 n. (Theiss).

Croatia and Slavonia.—Agram 21 (Save, *affl.* Danube), Eszak 13, Warasdin 10 (Drave), Fiume 10 (Adriatic).

Dalmatia.—Zara 19, Spalatro 10, Ragusa 10 (Adriatic).

Military Frontier.—Peterwardein 7, Pancsova 11 n., Semlin 13 (Danube).

Descriptive Notes.—The empire contains three towns with more than 100,000 inhabitants (Vienna, Pesth, Prague); eight between 100,000 and 50,000 (Lemberg, Grätz, Brunn, Trieste, Szegedin, Theresianopol, Buda, Cracow); twenty between 50,000 and 20,000; and fifty-eight between 20,000 and 10,000.

GERMAN AND POLISH PROVINCES.—*Prague*, an ancient city on the Moldau, and the second largest in the empire, is the chief seat of the Bohemian manufactures. *Pilsen* is noted for its iron mines. *Königgrätz*, a fortified town on the Elbe. *Töplitz*, on the Elbe, and *Karlsbad* on the Eger, are among the most fashionable watering-places in Germany. *Eger*: here, in 1684, Wallenstein and his friends

were assassinated. *Troppau*, the capital of Austrian Silesia, is noted for its manufactures of cloth and fire-arms. *Brünn*, the principal seat of the woollen manufacture of Austria; near it *Austerlitz*, the scene of Napoleon's triumph in 1805. *Iglau*, a manufacturing town, with mines of silver and lead in the vicinity. *Olmütz*, once the capital of Moravia, is a strongly fortified city, with a university and various manufactures. *Vienna*, capital of the empire, and one of the largest and most elegant cities in Europe, is situated on the right bank of the Danube; it is the chief seat of manufactures in the empire, and has very extensive commerce. Here sat, in 1815, the celebrated Congress, which fixed the present limits of the different European states. *Baden*, noted for its hot sulphurous springs, contains numerous splendid bathing establishments. *Linz*, capital of Upper Austria, is a fortified city on the Danube. *Salzburg*, the birthplace of Hadyn and Mozart, the eminent composers, is also famous for its salt mines. *Grätz*, a large manufacturing city, with a university, is the centre of the trade between Vienna and Trieste. *Laybuck*, the nominal capital of Illyria, is a busy manufacturing town. *Idria*, famous for its quicksilver mines, inferior only to those of Almaden, in Spain. *Trieste*, a populous city on the Adriatic, the principal seaport for Austrian exports, and the centre of its foreign commerce. *Innsbrück*, capital of the Tyrol, with a university, and manufactures of silk, woollen, and cotton goods. *Trent*, noted for the famous Council held here, from 1545 to 1563, for settling tenets of the Roman Catholic religion. *Lemberg*, capital of Galicia, on a sub-affluent of the Dniester, has a university, fortifications, and a large annual fair, held in January. *Cracow*, the ancient capital of Poland, and more recently of a small republic which was annexed to Austria in 1846, is noted for its cathedral, which contains the tombs of many Polish kings; for its university; and for an earthen tumulus, 150 feet high, erected to the memory of Kosciuszko, the William Tell of Poland, who died in 1817. *Wieliczka* and *Bochnia*, in the immediate neighbourhood of Cracow, have extensive salt mines, the former the most celebrated in the world. *Czernowitz*, capital of the new province Buckowina, or "forest region," is noted for its manufacture of hardware.

HUNGARIAN PROVINCES.—*Buda* or *Ofen*, and *Pesth*, on the opposite side of the Danube, connected with the former by an elegant suspension-bridge, form together the capital of Hungary. The former city carries on an extensive commerce in wine, and the latter has a richly endowed university. *Komorn*, at the confluence of the Danube and Waag, is one of the strongest fortresses in Europe. *Presburg* is the seat of the Hungarian Diet, and the place where the Emperor of Austria is crowned king of Hungary. *Szegedin*, in the centre of the Hungarian plain, is a place of great trade. *Vasarhely* has several great annual fairs. *Keszthely* has a large trade in cattle, corn, wine, and fruit. *Tokay* gives name to the most costly wine in Europe. *Schemnitz* and *Kremnitz*, the former famous for its mines of gold, silver, lead, copper, iron, sulphur, and arsenic; and the latter for its gold and silver mines. *Grosswardein*, capital of a large district, is strongly fortified, and has hot mineral springs in the vicinity. *Debreczin*, a large, manufacturing, commercial town, with a Calvinistic college, the most important in the empire. *Miskolts*, noted for its iron mines, from which the best steel in the empire is made. *Klausenburg*, capital of Transylvania, is an important manufacturing city on the Szamos. *Hermanstadt*, the headquarters of the commander-in-chief of the Transylvanian portion of the military frontier. *Temeswar*, capital of the new Austrian province, Banat and Servia, and the seat of command of the military frontier of Hungary, is strongly fortified, and has great trade. *Agram*, capital of Croatia and Slavonia, and the seat of command of the Croatian military frontier, contains a fine cathedral and several monasteries. *Fiume*, a royal free seaport town, and the outlet for the produce of Hungary. *Zara*, capital of Dalmatia, is a strongly fortified town on the Adriatic. *Spalatro*, noted for its Roman antiquities, is the most important seat of commerce in Dalmatia. *Peterwardein*, capital of the Slavonian military frontier, derives its name from Peter the Hermit, who here marshalled the first crusade.

Capes and Islands.—*Punta di Promontore*, the southern extremity of Illyria; *Veglia*, *Cherso*, and *Pago*, in the Gulf of Quarnero; *Grossa*, *Brazza*, *Lesina*, and *Curzola*, on the coast of Dalmatia.

Gulfs and Straits.—The Adriatic, between Italy and Dalmatia; Gulf of Trieste and Gulf of Quarnero, S. of Illyria; Morlacca Channel, between Croatia and the island Veglia.

Mountains.—The empire is traversed by three great mountain-ranges—viz., the Bohemian Mountains, forming the N.W. frontier (see under “Western Germany”); the Alps in the S.W.; and the Carpathian Mountains in the E.

The ALPS, extending from the Swiss frontier to near Vienna, consist of the following chains—viz., the *Rhaetian Alps*, in Tyrol, between the Adige and Inn; highest summit, Ortler Spitz, the culminating point of Austria, 12,850 feet; *Carnic Alps*, between Venetia and Tyrol, 11,500 feet (La Marmolata); *Noric Alps*, extending from the Tyrol to near Vienna, and separating the Danube from the Drave, 12,431 feet (Gross Glockner); *Julian Alps*, in Illyria, and *Dinaric Alps*, in Croatia and Dalmatia, separating the Save from the Adriatic, 10,866 feet (Mount Terglou).

The CARPATHIAN MOUNTAINS are usually divided into two great sections—viz., the *Western Carpathians*, between Hungary and Galicia, and forming a crescent-shaped ring around the head-waters of the Theiss; highest summit, Lomnitz Peak, in N. of Hungary, 8636 feet; *Eastern Carpathians*, between Transylvania and the Danubian Principalities, and separating the basin of the Theiss from that of the lower Danube, 9528 feet (Mount Butschetje). Many of the summits of the Carpathians ascend far above the snow-line, which in this latitude has an elevation of about 6000 feet.

Table of Rivers and Towns.—The following table comprises the river-system of Central Europe from the Pregel to the Rhine, together with the basin of the Danube and the N.E. coast of the Adriatic. Capitals of kingdoms and provinces are distinguished by SMALL CAPITAL letters; towns of more than 10,000 inhabitants, by Roman letters; and smaller towns by *Italics*.

Basins inclined to the Baltic.

<i>Rivers.</i>	<i>Towns.</i>
Pregel,	KÖNIGSBERG.
Elbing,	Elbing.
Vistula,	Danzig, Thorn, PLOCK, WARSAW, <i>Wieliczka</i> , Cracow.
Bug,	Brzesc-Litovski.
Narew,	Pultusk, Bialystock, n.
Peltew, <i>l</i>	LEMBERG.
Radomka, <i>l</i>	RADOM.
Wisprz,	LUBLIN, n.
Raba,	<i>Bochnia</i> .
Oder,	STETTIN, Frankfurt, Glogau, BRESLAU .
Wartha,	POSEN.
Lower Neisse, <i>l</i>	Görlitz, Reichenberg.
Katzbach, <i>l</i>	Liegnitz.
Upper Neisse, <i>l</i>	Neisse.

Basins inclined to the Baltic (continued).

<i>Rivers.</i>	<i>Towns.</i>
Oppa, <i>l</i>	TROPPAU.
Strait of Gellen,	Stralsund.
Warnow,	Rostock.
Stör,	Wismar.
Trave,	LÜBECK.

Basins inclined to the North Sea.

Elbe,	GLÜCKSTADT, Altona, HAMBURG, MAGDEBURG, DESSAU, Wittenberg, DRESDEN, KÖNIGGRÜTZ.
Stör,	Lüneburg, n. (on the Ilmenau).
Havel,	Brandenburg, Potsdam, NEU-STRELITZ.
Spree, <i>l</i>	BERLIN.
Saale, <i>l</i>	BERNBURG, Halle, Naumburg, Jena, RUDOLSTADT.
Bode, <i>l</i>	Quedlinburg, Halberstadt, n.
Böse,	Eisleben.
White Elster, ...	Leipzig, Gera, GREITZ.
Pleisse,	ALTENBURG.
Unstruth, <i>l</i>	Mühlhausen.
Wipper, <i>l</i>	SONDERSHAUSEN.
Gera,	Erfurt, GÖTHA, n. (on the Leine).
Ilm, <i>l</i>	WEIMAR.
Mulde, <i>l</i>	DESSAU, Zwickau.
Münzbach,	Freiberg.
Chemnitz,	Chemnitz.
Eger, <i>l</i>	Karlsbad, Eger.
Moldau,	PRAGUE.
Beraun, <i>l</i>	Pilsen.
Weser and Werra,	BREMEN, Minden; Schmalkalden, n. MEININGEN.
Hunte, <i>l</i>	OLDENBURG.
Aller,	Celle or Zelle.
Leine, <i>l</i>	HANOVER, Göttingen.
Ocker, <i>l</i>	BRUNSWICK.
Zellerbach,	Clausthal.
Aue,	BÜCKEBURG.
Werre, <i>l</i>	DETMOLD.
Diemel, <i>l</i>	AROLSEN, n.
Fulda, <i>l</i>	CASSEL, Fulda.
Ems,	Emden.
Hasse,	Osnabrück.
Ahe, <i>l</i>	MÜNSTER.
Hunse,	GRÖNINGEN.
Hoorn Diop,	ASSEN.
Vecht,	ZWOLLE, n.
Rhine (Yssel),	Deventer, Zutphen;
(Amstel),	AMSTERDAM;

Basins inclined to the North Sea (continued).

<i>Rivers.</i>	<i>Towns.</i>
Rhine (Old Rhine), ...	Leyden, UTRECHT, ARNHEIM ;
(Leck),	Gouda ;
(Waal),	Nymegen ;
	Crefeld, Düsseldorf, COLOGNE, Bonn, Cob- lantz, Mentz, Mannheim, Speyer, CARLS- RUHE, STRASBOURG, BASLE, SCHAFFHAU- SEN, Constance, VADUZ or LIECHTENSTEIN, COIRE or CHUR.
Wipper,	Elberfeld, Barmen.
Moselle, l	Coblentz, Treves, Metz, NANCY, Epinal.
Meurthe,	NANCY, Lunéville.
Salzbach,	WIESBADEN.
Maine,	Mentz, FRANKFÜRT, HOMBURG, n., Offen- bach, Würzburg.
Regnitz, l	Bamberg, Erlangen, Fürth.
Pegnitz,	Nürnberg.
Rezat,	Anspach.
Itz,	Coburg.
Red Maine,	Baireuth.
Darm,	DARMSTADT.
Neckar,	Mannheim, Heidelberg, Heilbronn, Ludwigs- burg, STUTTGART, n., Esslingen, Reutlin- gen, n.
Ill, l	STRASBOURG, COLMAR, Mühlhausen.
Elz,	Freiburg, n.
Ergolz,	Liesthal.
Aar, l	AARAU, SOLEURE, BERN.
Limmat,	ZÜRICH.
Linth, l	GLARUS.
Reuss,	LUCERNE, ALTORF.
Lorze,	ZUG.
Aa, l	STANZ.
Muotta,	SCHWYTZ.
Thiele, l	BIENNE, NEUCHÂTEL.
Sarine, l	FREIBURG.
Thur, l	FRAUENFELD, n.
Sittern,	APPENZELL.
Steinach, l	ST GALL.

Basins inclined to the Adriatic.

Isonzo,	Görz.
Roja,	Udine.
Idria, l	Idria.
Gulf of Trieste,	Trieste.
Gulf of Fiume,	Fiume.
Co. of Dalmatia,	ZARA, Spaiatro, Ragusa.
Narenta,	MOSTAR.
Tribinschucza,	Trebigno.

Basins inclined to the Black Sea.

<i>Rivers.</i>	<i>Towns.</i>
Danube,	Ismael, Galacz, Silistria, Rustchuk, Sistova, Nicopoli, Widdin, BELGRADE, Pancsova, Semlin, PETERWARDEIN, Neusatz, Zombor, n., Pesth, BUDA, Komorn, Presburg, VIENNA, Linz, Passau, Regensburg, Ulm.
Pruth, <i>l</i>	Jassy, n. (on the Baglui).
Sereth, <i>l</i>	Galacz.
Argish, <i>l</i>	BUCHAREST, n. (on the Dumbovitsa).
Aluta, <i>l</i>	Kronstadt, n., Hermanstadt, n.
Isker,	SOPHIA.
Morava,	Semendria, n.
Ibar,	Novi Bazar, Pristina.
Temes, <i>l</i>	TEMESWAR.
Save,	BELGRADE, AGRAM.
Drina,	Zvornik.
Bosna,	BOSNA SERAÏ, n.
Verbas,	Banialuka.
Laybach,	LAYBACH.
Theiss, <i>l</i>	Theresianopol, n., Szegedin, Vasarhely, Szentes, Koszketmet, Tokay.
Maros, <i>l</i>	Mako, Arad, Karlsburg.
Körös, <i>l</i>	Bekes, Czaba.
Sebes Körös, ...	Grosswardein.
Koselo, <i>l</i>	Debreczin.
Hernad,	Kaschau.
Sajo,	Miskoltz.
Tarcza, <i>l</i>	Eperies.
Szamos, <i>l</i>	KLAUSENBURG.
Drave,	Eszek, Warasdin.
Mur, <i>l</i>	Grätz.
Glan, <i>l</i>	Klagenfurt.
Sarvitz,	Stühlweissenburg.
Gran, <i>l</i>	Schemnitz, n., Kremnitz, n., Neusohl.
Raab,	Raab.
Torna,	Vasarhely-Somlo.
Raabnitz, <i>l</i>	Oedenburg, n. (on Lake Neusiedler).
March, <i>l</i>	Presburg, n., Olmütz.
Thaya,	Nikolsburg, n.
Schwartza, <i>l</i> ...	BRÜNN.
Iglawa,	Iglau.
Enns,	Steyer.
Inn,	Passau, INNSBRÜCK.
Salzach,	SALEBURG.
Isar,	MUNICH.
Lech,	Augsburg.

Lakes.—*Balaton* or *Platten See* and *Neusiedler See*, in Hungary; *Traun See* and *Atter See*, in Upper Austria, all in the basin of the Danube; *Zirknitz*, in Carniola, drained by the *Isonzo*.

Climate.—German writers divide the empire into three climatic zones—a northern, central, and southern. The first, which may be termed the *zone of grain, hops, and hemp*, embracing Bohemia, Moravia, Silesia, with the higher parts of Hungary and Galicia, greatly resembles in its temperature the British Isles and the north of France. The central zone, or that of *maize, wheat, and the vine*, extends southward to the parallel of 46°; while the third, or *zone of olives, myrtles, and rice*, embracing the remainder of the empire, is very mild and genial, snow falling on not more than five days in the year. Among the Italian Alps, however, occurs one of the rainiest localities in Europe, the rain in some places never halting for the space of two months. The mean annual temperature at Vienna is 51°, summer 69°, winter 33°, and the average fall of rain 28 inches.

Products.—No country in Europe excels Austria in mineral wealth. The precious metals are most abundant in Hungary, Transylvania, and Bohemia; quicksilver at Idria, in Carniola; native steel in Carinthia and Carniola; tin in Bohemia; lead in Carinthia; antimony in Hungary; coal, iron, copper, and salt in almost all the provinces.

The vegetation of the country is very copious and varied, that of Hungary alone embracing nearly all the plants indigenous to Europe, with many others that have been imported. About a fourth part of the entire surface is covered with forests, the most magnificent of which are found in the Hungarian and Polish provinces. The trees attain in many places a gigantic size; and the timber, which is of excellent quality, and well adapted for house and ship building, is largely exported. The soil is, in general, highly fertile, and though the best methods of agriculture are little practised, the crops are rich and abundant. About one-third of the entire surface is under tillage. Hungary and Galicia are the principal corn-growing provinces. In the northern section of the empire the cereals usually cultivated are wheat, rye, oats, and barley; in the central, maize and wheat; in the southern, maize and rice; while rye forms everywhere the principal food of the people. Vineyards occupy about half a million acres of the surface; and hops, tobacco, saffron, flax, hemp, mulberry-trees, and a great variety of fruit-trees, are also cultivated. In Hungary and Galicia much attention is paid to the rearing of sheep, and great quantities of wool are annually exported. Bees, Spanish flies, and the cochineal insect are reared in great numbers; while leeches abound in the Neusiedler See, and are largely exported for medicinal purposes. The wild animals, including the bear, wolf, lynx, wild-boar, and deer, are in general the same as in Prussia and Western Germany, the remainder being common to Italy and European Turkey.

Ethnography.—The people of Austria belong to four distinct nationalities—the Slavonians, who form the majority in Bohemia, Moravia, Silesia, Illyria, Dalmatia, and Hungary, and almost the

sole population in Galicia, being by far the most numerous. Upper and Lower Austria, together with Salzburg, are peopled almost exclusively by Germans, who also predominate in Styria and the Tyrol. Roumans or Italians constitute the sole population of the southern part of Tyrol, and the maritime districts of Illyria and Dalmatia. The Magyars, a people of Finnish extraction, who entered Europe in the ninth century, are the dominant race in Hungary and Transylvania; and Jews are numerous in many of the large towns.

LANGUAGES.—The languages belong, in like manner, to four distinct families—the Slavonic, the Teutonic, the Greco-Latin, and the Finno-Tartarian. To the first belong the *Russniak*, spoken by the Slavonian population of Galicia and Hungary; the *Servian*, in Dalmatia, Slavonia, and military Croatia; the *Bohemian*, in Moravia and Bohemia; and the *Slowak*, by the descendants of the original Slavonic settlers in Hungary, who, in 894, were subdued by the Magyars. The Teutonic family is represented by the *German*, spoken by about 8,000,000 of the population, who chiefly reside in the nine German provinces. The Greco-Latin family is limited to the provinces bordering on the Adriatic, and is represented by the *Italian* in the S. of the Tyrol; by the *Wallachian* in the S. of Transylvania; and by the *Albanian* in the southern parts of Dalmatia. The *Magyar* or *Hungarian* is closely allied to the Finnish of northern Europe, and is the only member of its class that has penetrated into the centre of the Indo-European family of tongues.

RELIGION AND EDUCATION.—Catholicism is the dominant religion in Austria, nearly 24,000,000 of the population being adherents of that Church. The next in point of numbers is the Greek Church, whose adherents, numbering in all 6,250,000, are found principally in Galicia and the other eastern provinces. The Protestants, who amount to only half this number, are for the most part Magyars, the greater part of whom belong to the Reformed or Calvinistic Church, most of the remainder being Lutherans; while, by the latest census, the Jewish community amounted to upwards of 1,000,000. Education is in an advanced state, though inferior to that of Prussia. The instruction given in all the public schools is gratuitous; and though attendance is not strictly compulsory, the law requires that every child between the ages of six and twelve shall be educated either in school or at home. Besides 44,000 elementary schools, 787 gymnasia, and 139 theological seminaries, there are 7 universities—viz., those of Vienna, Prague, Grätz, Olmütz, Innsbrück, Lemberg, and Pesth.

Government and Finance.—The form of government is an hereditary and almost absolute monarchy, both the legislative and executive power being administered by the Emperor, with ministers solely responsible to himself. Most of the provinces formerly possessed local parliaments that served as barriers against arbitrary power; but since the great revolutionary wave that swept over the Continent in 1848, these have been either abolished or greatly limited in power. Hence, except in the German provinces, discontent and insubordination everywhere prevail, and it is only by military force that the integrity of the empire can be maintained.

Lombardy, in 1859, by the aid of a French army, succeeded in throwing off the galling yoke of Austria; while Venetia, the other Italian province, achieved her independence, through the aid of Prussia, in 1866.

In consequence of the heterogeneous character of the population and the continually repeated attempts at insurrection, an immense standing army becomes necessary. The permanent military force amounts to about 390,000, but the war establishment is more than double that number. About 100,000 of these troops are derived from the military frontier, and cost the State nothing save their rations and daily pay in time of war,—the peasants in this region holding their lands on the condition that they defend the frontier, and that in case of need they march wherever the Emperor may require their services. The navy consists of 115 war vessels, carrying an aggregate of 987 guns. There are also numerous fortifications, some of which are all but impregnable. The revenue amounts to about £48,000,000 annually, the expenditure to £50,000,000; and the public debt, which is increasing at an alarming rate, to £302,531,000.

Manufactures and Commerce.—Mining forms an important branch of industry in Hungary, Bohemia, and the mountainous parts of Upper Austria, Styria, and Carinthia. Iron and coal not being wrought to a large extent, the manufactures of the empire are of secondary importance, except in the German provinces, where silk, woollen, and cotton fabrics are extensively produced.

Leather and linen goods are manufactured in all the provinces, and give employment to about one-seventh of the population. Bohemia has long been celebrated for its glass; while Vienna and Prague are noted for jewellery and watches. Owing to its very limited extent of seaboard, the foreign commerce of the empire is comparatively trifling, and is confined to Trieste, and one or two smaller ports on the Adriatic, itself a mere gulf of an inland sea. The Danube, with its navigable tributaries, the Theiss, Save, and Drave, are the great commercial thoroughfares of the empire; but the current of the main river is so rapid that only steamers and rafts carrying immense loads of timber and goods are employed on its waters. The river is also affected by other serious disadvantages, for, besides not being confined to Austrian territory, it discharges its waters into the Black Sea, which is greatly more inland than the Mediterranean itself. There are few canals except in Hungary, but excellent carriage-roads have been constructed, at great expense, between all the leading cities of the empire. Railways have also made great progress, there being, in 1869, no fewer than 4807 miles in active operation.

SWITZERLAND.

Boundaries.—N., Lake Constance and Baden; W., France; S., Italy; E., Austria. Lat. 45° 50'—47° 50' N.; lon. 5° 51'—10° 30' E.

Bern, the nominal capital, is nearly on the same parallel of latitude with Nantes, at the mouth of the Loire, Grätz, Jassy, Azov, and Astrakhan, at the

mouth of the Volga; and on the same meridian as the Naze, Münster, Strasbourg, and Turin. The form is elliptical—greatest length from E. to W., 216 miles; extreme breadth, 140 miles. The surface is more mountainous than that of any other country in Europe, two-thirds of the whole being occupied with stupendous mountains, while the remaining third consists of a lofty table-land, studded with beautiful lakes.

Area and Population.—The area is somewhat less than the half of Scotland, being 15,261 square miles; while, by the census of 1870, the population amounts to 2,669,095, or five-sixths of the latter country.

Political Divisions.—Switzerland consists of twenty-two small independent states, called cantons, united by a federal council, which holds its sittings at Bern. These may be divided into seven western, twelve north-eastern, and three southern cantons.

SEVEN WESTERN CANTONS.

Geneva.—Geneva 47 (Rhône).
Vaud.—Lausanne 27 (L. of Geneva).
Fribourg.—Fribourg 11 (Sarine, *affl.* Aar).
Neuchâtel.—Neuchâtel 10 (L. of Neuchâtel).
Bern.—Bern 36 (Aar, *affl.* Rhine).
Soleure.—Soleure 5 (Aar).
Basle.—Basle or Bâle 45 (Rhine).

TWELVE NORTH-EASTERN CANTONS.

Aargau.—Aarau 5 (Aar).
Zurich.—Zürich 20 (Limmat, *affl.* Aar).
Schaffhausen.—Schaffhausen 8 (Rhine).
Thurgau.—Frauenfeld 3, n. (Thur, *affl.* Rhine).
St Gall.—St Gall 15 (Steinach, *affl.* Rhine).
Appenzell.—Appenzell 3 (Sittern, *affl.* Thur).
Glarus.—Glarus 5 (Linth, *affl.* Limmat).
Schwytz.—Schwytz 2 (Muotta, *affl.* Reuss).
Zug.—Zug 3 (Lorze, *affl.* Reuss).
Lucerne.—Lucerne 15 (Reuss, *affl.* Aar).
Unterwalden.—Stanz 2, Sarnen 3 (*affls.* Reuss).
Uri.—Altorf 2 (L. of Lucerne).

THREE SOUTHERN CANTONS.

Grisons.—Coire or Chur 5 (Rhine).
Ticino.—Bellinzona 2 (Ticino, *affl.* Po), Lugano 5 (L. Lugano).
Valais.—Sion or Sitten 3 (Rhône).

Descriptive Notes.—The towns in Switzerland are remarkably few in number in proportion to the population, there being only seven of more than 10,000 inhabitants, and five (Geneva, Bâle, Bern, Lausanne, Zurich) that exceed 20,000.

Geneva, finely situated on the Rhône, where it issues from the lake, is the largest city in the confederation. It is noted for its manufactures of watches and jewellery, but still more for the many illustrious names that adorn its annals, including those of Calvin, Beza, Knox, Cranmer, Rousseau, and De Candolle. *Lausanne*, on the N. bank of L. Leman, is remarkable for the beauty of its scenery, and as being the place where Gibbon completed his celebrated work on the 'Decline and Fall of the Roman Empire.' *Neuchâtel*, on the W. side of the lake of same name, is a place of great trade in wine, corn, cattle, lace, and watches. *Bern*, the seat of the federal diet, and hence usually regarded as the

capital of Switzerland, is the seat of a university, and contains numerous manufactures. *Basle or Bâle*, the second city in Switzerland in point of population, is situated on the Rhine, near its great bend. It dates from the fourth century, and in 1431-37 was the seat of a great ecclesiastical council. *Zürich*, the Athens of Switzerland, on the Limmat, near its efflux from L. Zurich, contains a university, and has extensive manufactures of silk and cotton fabrics. *Schaffhausen* derives its importance from its proximity to the picturesque falls of the Rhine, three miles farther down the river. *St Gall*, an important seat of learning in the middle ages, has extensive manufactures of cotton, yarn, and muslins. *Glarus* exports cheese in great quantities, and has manufactures of cloth and cotton. *Lucerne*, on an arm of the beautiful lake of same name, near the efflux of the Reuss, is the capital of Catholic Switzerland, and the ordinary residence of the Papal nuncio. *Altorf*: here, according to tradition, the celebrated William Tell, the Wallace of Switzerland, shot the apple off his son's head, by order of Gessler, the Austrian tyrant, in 1307. *Cotre*, in the valley of the Upper Rhine, has an active transit trade, and some manufactures.

Mountains.—Switzerland is by far the most mountainous country in Europe, and the one which contains the grandest scenery. There are three principal ranges :—

The *Pennine Alps*, in the S.W., between Switzerland and Piedmont, and between the basins of the Rhine and Po, contain Mont Blanc in Savoy, the loftiest summit of the Alps, and now (since 1860) the culminating point of France, 15,744 feet high; Great St Bernard, 11,080 feet; Mont Cervin, 14,771 feet; and Monte Rosa, the culminating point of Switzerland, 15,208 feet; height of snow-line, 8900 feet.

The *Lepontine or Helvetian Alps*, between Switzerland and Lombardy, form the watershed between the basins of the Rhine, Rhone, and Po; highest summits, the Simplon, 11,510 feet, and Mount St Gothard, 10,900 feet.

The *Bernese Alps*, between the cantons Bern and Valais, and between the Aar and Upper Rhone: highest summits, Jungfrau, 13,718 feet; Schreckhorn, 13,386 feet; Finster-aar-horn, 14,026 feet; the Grimsel, 9700 feet.

Mountain-Passes.—The following are some of the most remarkable mountain-passes through the Swiss Alps :—

Pass of Great St Bernard, 8150 feet above the sea, on the road leading from Aosta in Piedmont, to Martigny in canton Valais. The *Cervin Pass*, 10,938 feet high—the loftiest in Europe—leading from Chatillon in Piedmont, to Visp in the Valais. The *Simplon Pass*, 6592 feet high, between Domodossola and the Valais: this great work was executed by Napoleon I., at prodigious expense, being 38 miles long, 30 feet wide, and embracing 611 bridges, and several extensive tunnels. *Pass of St Gothard*, 6976 feet high, between Bellinzona and Altorf, and the only pass which is carried over the crests of the mountains. *Bernhardin Pass*, 6970 feet high, between Chur and Bellinzona, and one of the principal routes of commerce between Italy, Switzerland, and Germany. The *Splügen Pass*, 6939 feet high, leads from Chiavenna in Lombardy, to Chur; it was traversed by a French army in 1800, and is now greatly improved by the Austrian Government. The *Gemmi Pass*, through the Bernese Alps, 7595 feet high, between the cantons Bern and Valais. *Grimsel Pass*, 7126 feet high, through the same chain, between Valais and Uri.

Glaciers, Avalanches, and Waterfalls.—The *Glaciers* of the Swiss and Italian Alps are among the grandest and most remarkable phenomena in nature. They consist of huge masses of ice, or of snow that has been partially melted by the heat of summer, but which has afterwards been congealed, and which, quitting the higher level, descend far below the usual snow-limit, into the region of cultivation. This descent is owing to the inclination of its bed, the annual accumulation of snow during winter in the higher levels,

the semi-fluid character of its surface, and other causes. The glaciers of the Alps, which are estimated at about 400, and cover an area of 1440 square miles, form the sources of several of the largest rivers in Europe, as the Rhine, Rhone, and Po, together with their principal affluents.

Avalanches are the most dangerous and terrible phenomena to which the Alpine valleys are exposed. They originate in the higher regions of the mountains, when the accumulation of snow becomes so great that the inclined plane on which the mass rests cannot any longer support it. It then rolls down the declivity by its own weight, acquiring at every leap both greater dimensions and increased speed, till, arriving at the lower valleys, it overwhelms and destroys everything that opposes its course, as forests, houses, and even entire villages.

The principal *Waterfalls* are the following:—*Fall of Laufen*, on the Rhine, three miles below Schaffhausen, forming one of the most imposing phenomena of the kind in Europe; *Falls of Handek* and *Giesbach*, on the Aar, the one near the Grimsel glacier, the other near Lake Brienz; *Fall of Staubach*, on the White Lutchine, an affluent of the Aar, in Bern (this is one of the highest falls in Europe, the river projecting itself over a precipice of more than 800 feet in elevation); *Fall of Tosa*, on the Toccia, above Domodossola, noted for its great volume of water; *Fall of Salenche*, on the Pissevach, an affluent of the Rhine, in Valais, 10 miles S.W. of Martigny.

Places of Historical Interest.—There are many such in Switzerland, but the following are especially famous:—

Morgarten, on the boundary between Schwytz and Zug, where, in 1315, a few hundred Swiss defeated an Austrian army 20,000 strong; *Tell's Platte*, on Lake Lucern, where William Tell escaped from the tyrant Gessler; *Burglen*, in Uri, where Tell was born, and *Altorf*, where he is said to have shot the apple; *Sempach*, in Lucern, rendered memorable by the heroic death of Arnold von Winkelried, a Swiss peasant, who fell in 1386, when bravely fighting against the Austrians; *Morat*, in Fribourg, where the Swiss, in 1478, totally defeated the invading army of Charles the Bold; *Wildhausen*, in St Gall, where Zuinglius was born; and *Cappel*, in Zurich, where he was killed in a skirmish against the Roman Catholics, in 1531.

Rivers and Towns.—See under "Austria," p. 105.

Lakes.—Of the numerous lakes in Switzerland, no fewer than ten of the principal are in the basin of the Rhine:—

Lake Constance or *Boden See*, in the N.E., drained by the Rhine; *Thun* and *Brienz*, by the Aar; *Zurich* and *Wallenstadt*, by the Limmat; *Zug* and *Lucern*, by the Reuss; *Bienne*, *Neuchâtel* and *Morat*, by the Thiele. Of the remaining three large lakes, *Leman* or *Lake of Geneva* is drained by the Rhone; and *Maggiore* and *Lugano*, by the Ticino, an affluent of the Po.

Climate.—Owing to the great elevation of the country, and the lofty mountain-ranges that traverse it, the climate is far more rigorous and variable than in central France under the same latitude.

The greatest extremes of temperature and the most violent contrasts of weather are presented in rapid succession. The mean annual tem-

perature at Geneva, 1230 feet above the sea, is 53°, summer 70°, winter 34°, and the yearly fall of rain 29 inches; while at the Hospice of Great St Bernard, the highest permanent habitation in Europe, being at an elevation of 8150 feet, the thermometer ranges only from 18° to 43°, and the fall of rain amounts to 65 inches. At elevations of more than 2000 feet, the climate is pure and healthy; but in the deep and narrow valleys the people are often afflicted by *cretinism*, a species of idiocy, and by a dreadful disease named *gottre*, or Derbyshire-neck.

Products.—The metals are less abundant than might be expected in so mountainous a country, and few mines are wrought. Iron is worked with advantage in the Jura mountains, coal on the southern shore of Lake Thun; rock-salt in Vaud; and sulphur, asphalt, marble, &c., in numerous localities.

The indigenous vegetation is peculiarly rich and varied, the characteristic floras of all countries in Europe being found here arranged in successive zones on the mountain-sides, from the vine, orange, olive, and pomegranate of the deep valleys, to the Alpine herbs, mosses, and lichens that extend to the line of perennial snow. The quantity of corn raised is quite insufficient for home consumption, but potatoes and dairy produce largely supply the deficiency. The pastures are rich, and vast numbers of cattle, horses, sheep, and goats are reared. Wild animals are very numerous, and, like the plants, inhabit successive zones on the mountain-sides; the first 5000 feet of elevation being the habitat of the hamster, beaver, rabbit, lizard, weasel, fox, and wolf; the second 5000 feet, of the viper, ringed snake, badger, bat, mole, hare, wild cat, golden eagle, stag, lynx, frog, steinbok, chamois, bear, and ermine; while the common mouse and the falcon are met with at elevations of 11,000 feet.

Ethnography.—The people of Switzerland belong to two distinct races—the Teutonic and the Greco-Latin.

The former, who are Germans, and speak the German language, inhabit the north-eastern cantons, and embrace considerably more than a half of the entire population; while the latter, who occupy the western and southern cantons, are subdivided into *French*, numbering about half a million in the extreme west of the country; *Italians*, near the southern frontier; and those speaking the *Romanche*, in the valley of the Inn, in Grisons. The inhabitants of the table-land and the Jura, forming three-fifths of the population, are Protestants, the remainder being Roman Catholics. The people are, generally speaking, well educated, especially in the Protestant cantons, a full seventh of the population being regularly at school; while the universities are three in number—viz., those of Basle, Bern, and Zurich.

Government and Finance.—The twenty-two cantons, each of which is an independent state (some of them, indeed, forming more states than one), constitute a federal republic, united in a perpetual league.

The Federal or Legislative Assembly, consisting of a National Council and a Senate, formerly held its meetings by rotation at Bern, Zurich, and Lucern; but, since 1848, at Bern exclusively. The standing federal army amounts to about 84,000 men, exclusive of a reserve force of fully half that number. The annual income and expenditure of the Confederation amount respectively to about one million sterling, while the public debt is trifling.

Manufactures and Commerce.—Though coal and iron are scarce, silk and cotton fabrics are produced in considerable quantity in the N.E. of the country; but the Swiss are especially celebrated for their extensive manufacture of watches, jewellery, and musical boxes, the chief emporiums of which are Geneva and Basle.

The commerce of Switzerland is rather extensive, considering the inland character of the country and the stupendous mountain-barriers that surround it. Most of the lakes, however, are navigable; numerous mountain-passes have been made available for beasts of burden and even for wheeled carriages; while railway communication has made great progress during the last few years, there being in 1869 a total of 837 miles in working order. The exports consist principally of cattle, sheep, dairy produce, timber, watches, jewellery, musical boxes, ribbons, and silk stuffs; and the imports, of corn, cotton, fine cloth, iron and copper utensils, books, furniture, salt, and articles of colonial produce.

I T A L Y.

Boundaries.—N., the Tyrol and Switzerland; W., France and the Mediterranean; S., the Mediterranean and Ionian Sea; E., Strait of Otranto and the Adriatic. Lat. $36^{\circ} 40'$ — $46^{\circ} 40'$ N.; lon. $6^{\circ} 28'$ — $18^{\circ} 30'$ E.

Rome, the ancient capital of the Roman Empire, and probably destined to be ere long the capital of the Kingdom of Italy, situated near the centre of the peninsula, is on the same parallel as Oporto, Adrianople, Sinope, Teflis, Khiva, Peking, Great Salt Lake City, and New York; and on the same meridian as Copenhagen, Leipsic, Venice, Tripoli, and St Paul de Loanda. In form, the peninsula resembles a high-heeled boot, with the toe directed towards Sicily; extreme length, from Mont Blanc to C. Leuca, 720 miles; average breadth, about 100 miles; shores slightly indented and generally bold, but low and insalubrious on the western side of Tuscany and the Pontifical States; coast-line about 2000 miles.

Area and Population.—Including Lombardy and Venetia, recently acquired from Austria, but omitting Savoy and Nice, now ceded to France, the area is 114,445 sq. m., or a little less than the area of the British Isles; while the population now amounts to 26,258,339, or six-sevenths of that of the United Kingdom.

Political Divisions.—As the result of recent revolutions in Italy, out of the six independent states formerly existing in the peninsula—viz., Sardinia, Parma, Modena, Tuscany, Naples, and Pontifical States—there is now only one state, viz., the “Kingdom of Italy,” whose sovereign is Victor Emanuel, and which has Rome, and not Florence, for its capital. Parma, Modena, Tuscany, and part of the Papal States, were annexed to Sardinia in 1859; Lombardy and Venetia in 1866; and the entire remainder of the Papal States in 1870.

Sardinia.—Turin 205, Casale * 25 (Po), Novara 27 (Terdoppio), Ales-

* In pronouncing Italian names, observe the following rules:—

VOWELS.—*a* is equal to *a* in *far*; *e* has two sounds, one long=*a* in *fate*, another short=*e* in *met*; *i*=*ee* in *meet*, as Messina, Pisa; *o* long=*o* in *stone*, short=*o* in *not*; *u*=*u* in *rule*; *ai*=*ai* in *aisle*, or *i* in *mine*; *ae* make two syllables, as in Gaeta (*Gae'-e-ta*); *au*=*ow* in *now*; *ie* also make two syllables, as in Pi-ed'-mont, Tri-es'-te.

CONSONANTS.—*c* is hard, like *k*, before *a*, *o*, *u*; but before *e*, *i*, *y*=*ch* in *church*,

sandria 57, **Asti** 30 (Tanaro), **Coni** 20 (Stura), **Vercelli** 25 (Sesia), **Genoa** 128 (G. of Genoa), **Cagliari** 31, **Sassari** 25 (I. of Sardinia).

Lombardy.—**Milan** 196 (Olona, *affl.* Po), **Cremona** 31 (Po), **Gonzago** 25 n. (Secchia), **Brescia** 40 (Mella), **Lodi** 19, **Como** 18 (Adda), **Bergamo** 39 (Brembo), **Pavia** 30 (Ticino).

Venetia.—**Venice** 118, **Bassano** 12 (Brenta), **Adria** 11 (Po), **Mantua** 30 (Mincio), **Verona** 51 (Adige), **Chioggia** 26, **Padua** 53, **Vicenza** 23 (Bacchiglione), **Treviso** 18 (Sile), **Udine** 23 (Roja).

Parma.—**Parma** 47 (Parma, *affl.* Po), **Piacenza** 40 (Po).

Modena.—**Modena** 55 (Secchia, *affl.* Po), **Guastalla** 23 (Po), **Reggio** 50 (Crosto), **Carrara** 6 (Avenza).

Tuscany.—**Florence** 114, **Pisa** 51, **Arezzo** 37 n. (Arno), **Lucca** 65, **Capannori** 38 n. (Serchio), **Leghorn** 96 (W. coast), **Siena** 25 (Arbia).

Romagna and Umbria (formerly part of the States of the Church).—**Ferrara** 68 (Po), **Bologna** 109 (Reno), **Faenza** 36 (Lamone), **Ravenna** 57, **Forlì** 38 (Montone), **Rimini** 33 (Ausa), **Urbino** 7 n. (Metauro), **Ancona** 46 (E. coast), **Macerata** 19 (Potenza), **Fermo** 14 (Fermo), **Ascoli** 13 (Tronto), **Perugia** 44 (Tiber), **Orvieto** 8 (Paglia), **Spoletto** 7 (Maroglia), **Rieti** 12 (Velino).

Naples W. of the Apennines.—**Naples** 447, **Castellamare** 20 (G. of Naples), **Gaeta** 15 (W. coast), **Capua** 8, **Benevento** 20 n. (Volturno), **Avellino** 21 (Sabbato), **Caserta** 28 n. (Lagni), **Salerno** 29 (G. of Salerno), **Reggio** 30 (Str. of Messina), **Catanzaro** 13 (G. of Squillace).

Naples E. of the Apennines.—**Potenza** 9 (Basente), **Taranto** 27 (G. of Taranto), **Lecce** 15, **Bari** 34, **Molfetta** 22, **Barletta** 27 (E. coast), **Foggia** 34 (Cesone), **Campobasso** 3 (Biferno), **Chieti** 16, **Aquila** 10 (Pescara), **Teramo** 10 (Trontino).

Sicily.—**Palermo** 194 (N. coast), **Trapani** 30, **Marsala** 31 (W. coast), **Girgenti** 20 (S. coast), **Syracuse** 14, **Catania** 69, **Aci** 35, **Messina** 103 (E. coast), **Caltanissetta** 16 n. (Salso), **Caltagirone** 22 n. (Terranova), **Modica** 30 (Scioli), **Lipari** 14 (I. Lipari).

Pontifical States.—**ROME** 220 (Tiber), **Viterbo** 14 (Arcone), **Civita Vecchia** 10 (W. coast), **Velletri** 13 (Astura), **Frosinone** 8 (Cossa).

Descriptive Notes.—The Kingdom of Italy contains ten towns above 100,000 inhabitants (Naples, Milan, Turin, Rome, Palermo, Genoa, Florence, Bologna, Venice, Messina); twelve between 100,000 and 50,000 (Leghorn, Catania, Ferrara, Verona, Alessandria, Ravenna, Modena, Padua, Pisa, Reggio, Lucca, Parma); sixty-five between 50,000 and 20,000; and one hundred and forty between 20,000 and 10,000.

SARDINIA.—**Turin**, formerly capital of Sardinia, is a fine ancient city on the left bank of the Po: it ranks as the first city in Italy for the number and importance of its literary institutions, among which the university occupies the chief place. **Alessandria**, a large fortified town, with extensive trade, is, next to the capital, the most important city in Piedmont. **Asti**, the birthplace of Alfieri the dramatist. **Genoa**, an ancient and celebrated city, at the head of its gulf, is familiarly known as "the superb," owing to its numerous splendid edifices. From the eleventh to the eighteenth century it was the capital of a famous commercial republic. It is the seat of a university, and the birthplace of Columbus. **Cagliari**, the capital of the island Sardinia, is a fortified city, with a university.

LOMBARDY.—**Milan**, formerly capital of the Lombardo-Venetian kingdom, is an ancient, populous, and magnificent city of circular shape, enclosed by walls and ramparts, adorned by many elegant public buildings, and celebrated in history as the see of St Ambrose, and the birthplace of many popes and eminent men.

as **Piacenza**; *ch=ch* in *monarch*, as **Chienti**; *g* is hard before *a*, *o*, *u*, like *g* in *gone*; but before *e*, *i*, *y*, it is soft=*g* in *gentile*; *gg=dg* in *judge*; *gh* is always hard=*gh* in *ghost*; *gl=ll* in *million*; *gn=n* in *onion*, *Spantard*; *h* is always silent in Italian; *j* beginning a syllable=*y* in *yonder*, but when ending a word=*z* in German, or *ue* in French; *r* has a very strong, rolling sound; *sc* before *e* and *i*=*sh* in *shell*, as **Scio**; *s=ds* in English; *ss=ts* in *sits*.

Cremona, long noted for violins. *Brescia*, a commercial manufacturing city, noted for its wines. *Lodi*; here Napoleon I. obtained a great victory over the Austrians in 1796. *Como*, at the southern extremity of the beautiful lake of same name, was the birthplace of the younger Pliny. *Bergamo*, noted for its great annual fair. *Pavia* is the seat of an ancient university: here Hannibal obtained his first victory over the Romans.

VENETIA.—*Venice*, capital of the province Venetia, was for many centuries the capital of a celebrated republic which dates its origin from the invasion of Atilia, which attained its acme of prosperity in the fifteenth century, when it was reckoned the first maritime and commercial power in the world, and which was made over to Austria in 1814. It is the birthplace of Canova, one of the greatest of modern sculptors; while Titian, the prince of portrait-painters, was born in its vicinity. *Adria*, an ancient seaport town, which gave its name to the Adriatic, though now fourteen miles inland. *Mantua*, the birthplace of Virgil, is a very strongly fortified city on the Mincio. *Verona*, a strongly fortified city on the Adige, containing numerous Roman remains, especially an amphitheatre, the most perfect of its kind now existing. *Padua*, an ancient and strongly fortified city, with a famous university, at one time attended by Tasso and Columbus. It is the birthplace of Livy the historian, and of Belzoni the traveller. *Vicenza*, extensively engaged in the silk trade. *Treviso* and *Udine* have extensive manufactures of silk, cotton, linen, and paper.

PARMA, MODENA, AND TUSCANY.—*Parma*, formerly capital of the Duchy of same name, has some silk-manufactures, and a fine picture-gallery. *Piacenza*, a handsome city on the Po, richly adorned with works of art, and the scene of Hannibal's second victory over the Romans. *Modena*, formerly capital of the Duchy of same name, contains a university, botanic garden, and rich cabinets of natural history. *Reggio*, the birthplace of Ariosto and Correggio. *Carrara*, noted for its quarries of fine statuary marble. *Florence*, formerly capital of the Grand-Duchy of Tuscany, is a fine walled city on the Arno, surrounded by delightful scenery, and containing the richest collections of sculptures, paintings, and antiquities in the world: it is the birthplace of Dante, and many other illustrious persons. *Pisa*, noted for its ancient university, for its curious leaning tower, 178 feet in height, and for being the birthplace of Galileo. *Lucca*, noted for its mineral baths, has a cathedral containing many valuable paintings, and an ancient amphitheatre of great size. *Leghorn*, noted for its manufacture of Tuscan straw-plait, is the greatest commercial emporium in Italy. *Siena*, once the capital of a powerful republic, contains several magnificent public edifices, adorned with paintings of the Sienese School.

ROMAGNA AND UMBRIA.—*Ferrara*, formerly the most northern city of the Papal dominions, is the seat of a famous university, at which Ariosto was educated. *Bologna*, the seat of a famous university, the most ancient in Italy, and formerly the second city in the Papal States, was the birthplace of Galvani, Guido, and the three Caracci. *Faenza*, birthplace of Torricelli, the inventor of the barometer. *Ravenna*, the capital of Italy under the Gothic kings, is rich in antiquities of the early middle ages. *Rimini*, the seat of an ecclesiastical council in A.D. 859, has important sulphur mines in its vicinity. *Urbino*, the birthplace of Raphael, in 1488. *Ancona*, an important seaport on the Adriatic. *Perugia*, an ancient city, at which have been found numerous Etruscan antiquities.

NAPLES.—*Naples*, formerly capital of the kingdom of the Two Sicilies, beautifully situated on the bay of same name, is by far the most populous city in Italy. It is very ancient, having been founded about four centuries before the Christian era. It is the principal seaport of southern Italy, and the centre of its learned institutions. In its vicinity are the celebrated ruins of Pompeii and Herculaneum, which were buried during an eruption of Mount Vesuvius (A.D. 79), and accidentally discovered in 1720, since which time the excavations have brought to light many of the most valuable relics of antiquity. *Castellamare*: here the elder Pliny perished in the catastrophe which buried Pompeii, A.D. 79. *Gaeta*, a fortified seaport town which formed the asylum of Pius IX., when, in 1849, he fled from Rome, to join the fugitive King of Naples. *Capua* is strongly fortified, and is the only fortress that covers the approach to Naples. *Benevento* was the seat of several councils in the eleventh and twelfth centuries. *Avellino*, near it the Val di Gargano, famous for the victory of the Samnites over the Romans, in the year of Rome 433. *Salerno*, noted for its ancient school of medicine, contains a university. *Reggio*, opposite Messina, is the most southern city and seaport of

continental Italy, and very ancient. It was touched at by St Paul on his voyage to Rome. *Taranto*, an ancient city of great historic celebrity, but now a place of little importance. *Barletta*, a fortified seaport town, carrying on a brisk coasting trade. *Foggia* is considered the second city in Naples for wealth and importance. *Aquila*, birthplace of Sallust, is one of the most commercial cities in the kingdom of Naples.

SICILY.—*Palermo*, capital of Sicily, and the fourth city in Italy as regards population, is of very ancient origin, having been founded by the Phœnicians. It is a spacious and well-built city, with extensive commerce. It was the scene of the massacre called the "Sicilian Vespers" (in 1282), which, commencing in the freak of a Frenchman who had insulted a Sicilian lady going to church, ended in the extermination of every Frenchman in the island. *Trapani*, a busy commercial town engaged in the coral fishery. *Marsala*, noted for its wines, which it largely exports to England. *Girgenti*, a very ancient and celebrated city, is the chief port in Sicily for the exportation of sulphur. *Syracuse*, founded by Corinthian colonists, B.C. 734, was for ages a place of great historic importance: it was the birthplace of Archimedes, and the residence of Plato and Cicero, but has now dwindled into insignificance. *Catania*, at the foot of Mount *Ætna*, and the third most important city in Sicily, has been repeatedly ruined by earthquakes: the houses are built and the streets paved with lava: it has manufactures of silk, and wares made of lava and amber, and exports corn, macaroni, olives, figs, raw silk, wine, and snow from Mount *Ætna*. *Messina*, the most populous city in Sicily except the capital, which it equals in commercial importance. The harbour is regarded as one of the finest in Europe, and is well fortified. The Strait of *Messina*, with a rock named *Scylla* on the one side, and an eddy called *Charybdis* on the other, was much dreaded by ancient mariners. *Lipari*, in an island of same name, exports pumice-stone to all parts of the world, as also sulphur, nitre, and soda.

PONTIFICAL STATES.—**ROME**, on the left bank of the Tiber, 16 miles from its mouth, is, next to Jerusalem, the most celebrated city in the world. It was founded B.C. 753; at the beginning of our era it had upwards of 1,000,000 inhabitants, and was the mistress of the then known world; in A.D. 410 it was conquered by the Goths under Alaric; it was given to the popes by Pepin and Charlemagne in the eighth century, since which time it has been the capital of the Pontifical States. Rome is unrivalled for its artistic and architectural riches, but has a sad and desolate appearance. The streets are narrow, dirty, and unpaved, the finest palaces and the most wretched hovels being in closest juxtaposition. The Cathedral of St Peter's is the largest and most sumptuous structure of the kind in the world, and the Vatican Palace adjoining is the permanent residence of the popes. The university, which dates from 1244, is well attended, but is less celebrated than the college of the Propaganda, in which natives of all parts of Europe are trained as missionaries for propagating the "Catholic" faith throughout the world. *Civita Vecchia*, the principal seaport of the Pontifical States. *Velletri*, the birthplace of the Emperor Augustus, B.C. 63.

Capes.—*Piombino* and *Argentaro*, in Tuscany; *Circello*, W. of Pontifical States; *Palinuro* and *Vaticano*, W. of Naples; *Spartivento*, *Colonna*, and *Leuca*, S. of Naples; *Otranto* and *Gargano*, E. of Naples; *Passaro*, S.E. of Sicily; *Teulada* and *Carbonara*, S. of island Sardinia.

Islands.—The Italian islands range themselves naturally in four groups—viz., the Sardo-Corsican, Sicilian, Maltese, and Ponza groups—the principal members of which are the following:—

Corsica, which belongs to France; *Sardinia*, S. of Corsica, the second largest island in the Mediterranean (area, 9167 square miles); *Caprera*, a small island N.E. of Sardinia, the residence of Garibaldi; *Elba*, W. of Tuscany, the residence of Napoleon in 1814; *Sicily*, S.W. of Naples, the largest island in the Mediterranean (area, 10,556 square miles); *Lepari Isles*, N. of Sicily, containing several active volcanoes; *Malta* and *Gozo*, S. of Sicily, forming an important naval station, belonging to Britain; *Ponza*, *Ischia*, and *Capri*, W. of Naples.

Seas, Gulfs, and Straits.—*Tyrrhenian Sea*, between the mainland

and the Sardo-Corsican Islands; Ionian Sea, between Italy and Greece; Adriatic Sea, between Italy and Turkey. Gulfs of Genoa, Gaeta, Naples, Salerno, Policastro, and St Eufemia, all on the west coast; Squillace and Taranto on the south coast; Manfredonia and Venice on the east coast. Strait of Messina, between Naples and Sicily; Bonifacio, between the islands Corsica and Sardinia; Otranto, between Naples and Turkey.

Mountain System.—Besides the Alps, separating Italy from France, Switzerland, and the Tyrol (for which see under "Europe"), there are two great mountain-ranges in Italy—viz., the Apennines, traversing the mainland in the direction of its greatest length, and the Sardo-Corsican range in Corsica and Sardinia.

The *Apennines* branch off from the Maritime Alps near Genoa, extend in a S.E. direction through the entire length of the peninsula, and form the watershed between the Tyrrhenian Sea and the Adriatic. They are of greatly less elevation than the Alps, and nowhere attain the height of the snow-line, except in Sicily, though some of the continental summits are covered with snow for nine months in the year. *Monte Corno*, in the N. of Naples, the highest summit of the continental Apennines, 9521 feet; *Monte Velino*, in N.W. of Naples, 8180 feet; *M. Vesuvius*, near Naples, 3948 feet; *M. Ætna* in Sicily, the highest summit of the entire range, 10,874 feet; line of perennial snow, in Sicily, 9500 feet.

The *Sardo-Corsican* range extends from Cape Corso, in the N. of Corsica, to Cape Spartivento in the S. of Sardinia, and forms the watershed between the Tyrrhenian Sea and the Mediterranean proper: highest summits, *Monte Rotondo*, in Corsica, 9068 feet, and *Monte Genargentu*, in Sardinia, 7000 feet.

Table of Rivers and Towns.—Owing to the peninsular form of the country, and the position of its mountain-chains, there is only one extensive river-basin in all Italy—viz., that of the Po—which has an area of about 30,000 square miles (including the rivers which enter its delta), or nearly one-third of the entire peninsula.

Basins inclined to the Tyrrhenian Sea.

<i>Rivers.</i>	<i>Towns.</i>
Gulf of Genoa,	Genoa.
Serchio,	Lucca, Capannori, n.
Arno,	Pisa, Florence, Arezzo, n.
Co. of Tuscany,	Leghorn.
Ombrone,	Siena, n. (on the Arbia).
Marta,	Viterbo, n. (on the Arcone).
Co. Papal States,	Civita Vecchia.
Tiber,	ROME, Perugia.
Nera, l	Rieti, n. (on the Velino).
Astura,	Velletri.
G. of Gaeta,	Gaeta.
Volturno,	Capua, n.
Calore, l	Benevento.
Sabbato, l	Avellino.
Lagni,	Caserta, n.

Basins inclined to the Tyrrhenian Sea—(continued).

<i>Rivers.</i>	<i>Towns.</i>
G. of Naples,	NAPLES, Castellamare.
G. of Salerno,	Salerno.
Str. of Messina,	Reggio.

Basins inclined to the Ionian Sea.

G. of Squillace,	Catanzaro.
G. of Taranto,	Taranto.
Basente,	Potenza.

Basins inclined to the Adriatic.

S.E. Co. of Naples, ...	Lecce, n., Bari, Molfetta, Barletta.
Cesone,	Foggia.
Biferno,	Campo-Basso.
Pescara,	Chieti, Aquila.
Trontino,	Teramo.
Tronto,	Ascoli.
Fermo,	Fermo.
Potenza,	Macerata.
Co. of Romagna,	Ancona.
Metauro,	Urbino, n.
Ausa,	Rimini, SAN MARINO.
Montone,	Ravenna, Forli.
Lamone,	Faenza.
Reno,	Bologna.
Po,	Adria, Ferrara, Guastalla, Cremona, Piacenza, Casale, TURIN.
Secchia,	Gonzaga, MODENA.
Mincio, <i>l.</i>	Mantua.
Oglio, <i>l.</i>	Pontevecchio.
Mella, <i>l.</i>	Brescia.
Crostolo,	Reggio.
Parma,	PARMA.
Adda, <i>l.</i>	Lodi, Como.
Brembo, <i>l.</i>	Bergamo, n.
Olona, <i>l.</i>	MILAN.
Ticino, <i>l.</i>	Pavia, BELLINZONA.
Terdoppio, <i>l.</i>	Novara.
Tanaro,	Alessandria, Asti.
Stura, <i>l.</i>	Coni.
Sesia, <i>l.</i>	Vercelli.
Adige,	Verona, Trent.
Bacchiglione,	Chioggia, Padua, Vicenza.
Brenta,	VENICE, Bassano.
Sile,	Treviso.
Isonzo,	Görz.
Roja,	Udine.
Idria, <i>l.</i>	Idria.

Lakes.—Italy is studded with many beautiful lakes, especially the basin of the Po, near the foot of the Alps, where lakes Garda, Como, Maggiore, and others, are unrivalled for their enchanting scenery. The following are the principal lakes, arranged in the order of the river-basins in which they are situated :—

Po Basin—*Garda*, drained by the Mincio; *Como*, by the Adda; *Maggiore*, the largest lake in Italy, 40 miles long by 2 broad, by the Ticino; *Lugano*, by the Tresa, an affluent of the Ticino.

Marta Basin—*Bolsena*.

Tiber Basin—*Perugia*, with no visible discharge.

Garigliano Basin—*Celano* or *Fucino*, drained by an artificial channel.

Climate.—The climate of Italy is universally regarded as the finest in Europe, for not only is it dry, warm, and genial, but the atmosphere is uniformly clear and cloudless, and the sky of a deep-blue colour.

The mildness of its winters, especially along its western shores, renders Italy a favourite winter residence for invalids from other parts of Europe. In the northern parts the cold is sometimes severe, but it is little felt in the centre and south, where the plains enjoy an almost perpetual spring. The valley of the Po considerably resembles in temperature the central parts of France, the lakes freezing in winter, and the orange and lemon refusing to ripen in the open air; but the vine and mulberry flourish, and rice is cultivated. In central Italy, the olive, orange, and lemon grow luxuriantly, and maize, oil, wine, and tobacco are cultivated; while in the southern parts and in Sicily winter can scarcely be said to exist, and tropical plants, such as the sugar-cane, indigo, date-palm, papyrus, and Indian fig, come to maturity. At Milan snow falls, on an average, on ten days annually; at Venice on five; at Florence, Rome, Naples, and Palermo, on only two; but great quantities of rain fall during the winter, especially in the north. The mean annual temperature of Rome is 59°, mean winter 44½°, and mean summer 75°. The general salubrity of the climate, however, has certain drawbacks: the south and west are exposed in summer to the sirocco, a burning wind from Africa; several parts of the western coast are rendered very unhealthy from the malaria emanating from pestilential marshes; while Naples and Sicily are continually subject to violent earthquakes.

Minerals.—The mineral products of Italy, though numerous, are not turned to much account, mining being everywhere neglected.

There are few metals, except iron, lead, and tin, the first of which is very abundant in Elba, and copper, manganese, cobalt, and quicksilver are found in the Apennines; coal is plentiful in Venetia, Sardinia, and Tuscany; salt, alum, and borax in many localities; alabaster in Tuscany; and beautiful statuary marble at Carrara and other places. But the volcanic products of Italy, especially sulphur, nitre, and lava, are of greater value than all its other minerals, nearly all the sulphur required in Europe being obtained from Sicily.

Botany.—The vegetation of Italy, except the Alpine plants of the loftier mountains, belongs to the *third*, or *Mediterranean Region*, of Professor Schouw, which also embraces Spain, Greece, Asia Minor, Syria, and Northern Africa (p. 30). The range of vegetation is very great, embracing the characteristic floras of every

country in Europe, from the tropical species found in Sicily (see under "Climate"), to the dwarf willows, rhododendrons, mosses, and lichens, reaching to the snow-line on the sides of the Alps. In Lombardy alone no fewer than 2568 species of flowering plants are enumerated.

AGRICULTURE.—Notwithstanding the fertility of the soil, and the unvaried climate of Italy, there is scarcely a country in Europe that does not leave it behind in everything connected with successful husbandry. In Lombardy and Piedmont, however, agriculture is better understood; the soil is cultivated with care; artificial irrigation is extensively practised; and the principal crops are rice, maize, wheat, rye, oats, barley, vines, olives, figs, oranges, citrons, hemp, and flax. In Tuscany the corn raised is insufficient for home consumption, though the valley of the Arno has long been regarded as the garden of Italy. In the Papal and Neapolitan States agriculture is also in an extremely backward state, though in the latter country and Sicily the soil is volcanic, well watered, and highly fertile. Here the chief crops are wheat, maize, rice, cotton, hemp, lint, oil, tobacco, sugar-cane, dates, melons, and other fruits.

Zoology.—There are few, if any, wild animals peculiar to Italy, which, however, abounds in nearly all the species found in other parts of southern Europe.

The mammalia comprise 68 species, including 42 carnivora, 16 rodents, 9 ruminants, and 1 pachyderm—viz., the wild boar of Calabria. The carnivora embrace the bear, badger, marten, dog, wolf, fox, civet, wild-cat, shrew, desman, and numerous bats; the ruminants, the buffalo, deer, goat, and sheep; and the rodents, the hare, squirrel, dormouse, and arvicola. Of the 294 species of birds there are numerous species unknown in the British Isles. Reptiles of every order are very numerous, embracing no fewer than 47 species. Of the 444 fishes found in the Mediterranean, the great majority frequent the coasts of this peninsula; and some of the fisheries there established, especially those of the tunny, anchovy, pilchard, and mackerel, are of great value. The articulated animals are also very numerous, including the bee and silk-worm, both of which are of great economic importance.

Ethnography.—From the earliest dawn of history, Italy contained a number of distinct races. Who were its earliest inhabitants, and from what country they entered the peninsula, are questions still involved in great obscurity. It is pretty generally allowed, however, that the aborigines of the south, who are known by the various names of Pelasgi, Siculi, Enotrians, and Itali, were a Sanscritic race, and allied to the Celts, Teutones, and Sclaves, the earliest settlers in Western and Northern Europe; that they entered Italy from the north, at various times, from 2000 to 1350 B.C.; and that they were subsequently driven southwards by the Etruscans, Ligurians, and other tribes of uncertain origin. In 753 B.C. Rome was founded, according to some, by the descendants of a colony from Troy, and gradually extended its sway over the entire peninsula, and at length over the greater part of the whole world as known to the ancients. In the fifth century of our era the Goths invaded Italy, and overthrew the Roman Empire. The Italian people of the present day are, therefore, a very mixed race, formed of the

union of the aborigines with Greeks, Gauls, Goths, Germans, and Arabs.

LANGUAGE.—The Grecian colonists, in common with all the other tribes above enumerated, came in the course of time to lose their original dialects; and, as early as the reign of Augustus, Latin was the spoken language of all Italy. The modern Italian, a soft, euphonious language, is more closely allied to the Latin than any other Greco-Roman tongue. Of its numerous dialects, which differ widely from each other, the Tuscan is the most refined and harmonious, being spoken by the educated classes in all parts of the peninsula, and having been long the almost exclusive channel of Italian literature.

RELIGION AND EDUCATION.—The entire population of Italy, with the exception of 25,000 Waldensian Protestants in Piedmont, who, after ages of persecution, are now allowed freedom of worship, belongs to the R. Catholic Church. Until the recent revolutions, when the Pope's temporal power was so terribly shaken, no other form of worship was tolerated in any part of the peninsula. Now, however, this state of things is changed considerably for the better; Protestants are allowed freedom of worship in all the cities and towns of the Kingdom of Italy, while even in the States of the Church a limited degree of toleration exists, and Protestants are allowed to meet for worship outside the walls of Rome. The education of the people is also better attended to. Formerly very few of the peasantry could either read or write, except in Sardinia, which for many years has formed an honourable exception to the general rule. But now common schools are beginning to appear in all directions; newspapers and railways are on the increase, and, above all, the Word of God in the vernacular may now happily be seen in multitudes of villages and hamlets throughout the peninsula. Previous to the revolution of 1860, there were five universities in the kingdom of Sardinia—viz., those of Turin, Genoa, Cagliari, Sassari, and Pavia; in Tuscany, three—those of Pisa, Florence, and Siena; in the Pontifical States, four—the University of Rome, the University of Bologna, the Collegio Romano, and the Collegio de Propaganda Fide; in Naples, three—those of Naples, Palermo, and Catania. To these are now to be added the Universities of Pavia in Lombardy, and Padua in Venetia.

Government and Finance.—With the exception of Sardinia, which has enjoyed free institutions since 1848, all the Italian states had for generations been groaning under despotisms of the most extreme type. Civil and religious liberty were everywhere unknown; and freedom of worship, freedom of speech, freedom of the press, and liberty of the subject, effectually suppressed. The inextinguishable love of liberty, however, in the bosoms of the people, stimulated by the example and influence of Sardinia, broke out at length in a general revolution, which terminated in hurling the despots from their thrones.

In 1859, Lombardy was wrested from Austria and ceded to Sardinia; in the following year Parma, Modena, and Tuscany, having expelled their sovereigns, also attached themselves to that state; while still more recently, Garibaldi, a Sardinian general, raised the standard of revolt in Sicily, crossed the Strait of Messina, overran the Neapolitan territories and the Pontifical States, and thus laid all the remainder of Italy, with the exception of Rome and Venetia, at the feet of Victor Emmanuel. Finally, Venetia was ceded by Austria at the termination of

the Continental war of 1866; while during the Franco-German war of 1870, the French garrison having evacuated Rome, that city with its territory was taken possession of by Victor Emanuel. In 1869, the army numbered 183,441; the navy, 106 vessels of war, carrying 1468 guns; receipts, £34,420,000; expenditure, £46,030,000; public debt, £251,000,000.

Manufactures and Commerce.—Manufacturing industry is everywhere at a low ebb, especially in the south, where gambling, indolence, and licentiousness are universally prevalent.

But silk fabrics of an excellent quality, together with jewellery, personal ornaments, perfumes, and liqueurs, are extensively produced, especially in Lombardy and Piedmont. Besides these, cotton, coarse woollen, and linen goods, for home consumption, are manufactured in Sardinia; paper and straw-plait in Tuscany; leather, gloves, musical instruments, glass wares, cordage, soap, and wine, in central Italy, where also sulphur and salt are prepared for exportation; while in Naples the principal articles, besides silk, are woollens, linens, hosiery, straw-hats, sausages, macaroni, and especially olive-oil at Gallipoli. The chief exports are silk, olive-oil, sulphur, borax, wines, fruits, oak and cork bark, anchovies, macaroni, essences, perfumery, glass, statuary marble, soap, straw-plait, and musical strings. The commerce is considerable, and is rapidly increasing. It is chiefly carried on with Great Britain, the south of Europe, and the Levant. From Britain, Italy imports cotton stuffs, iron, steel, hardware, coal, tea, sugar, and coffee; wool from the Levant; corn from Odessa; and wines from France and Spain.

Internal Communication.—Owing to the want of energy on the part of the people, their abject poverty, and the ages of misrule to which they have been subjected, the thoroughfares of commerce are in a very backward condition.

Good *Roads* have been constructed in Sardinia, but in central and southern Italy they are everywhere in a most wretched condition. There are no roads leading across the Apennines, notwithstanding their moderate elevation; and in the Pontifical States, the best yet existing are the ancient Roman highways. Lombardy abounds with *Canals*, but they are mostly used for the purpose of irrigation. Till very recently, *Railways* were almost unknown in Italy, nor have they yet been introduced to any great extent, except in Sardinia, Tuscany, and Venetia, where there are numerous lines. In central and southern Italy, the only important railway is that connecting Rome with Naples, which was opened in 1862. In that year the total number of miles in the peninsula was 1407, which had increased in 1870 to 3667.

G R E E C E.

Boundaries.—N., European Turkey; W., the Ionian Sea; S., the Mediterranean; E., the Ægean Sea or Archipelago. Lat. 36° 25'—39° 30' N.; lon. 19° 36'—26° E.

Athens, the capital, near the centre of this area, is on the same parallel of latitude as the Azores, Cordova, Mount Ætna, Smyrna, Tabriz, Astrabad, Yarkand,

Tai-nan, San Francisco, and Washington; and on the same meridian as Hammerfest, Mittau, Lemberg, Widdin, Derna (in Tripoli), and Cape Delgado. The form is extremely irregular, being broken up by straits and deep inlets of the sea into a series of peninsulas and islands, which stand to Europe in the same relation as Europe does to Asia. Extreme length of the continental part, 200 miles; breadth, on the parallel of Athens, 170 miles. Surrounded by the sea on three sides, and stretching out between the three continents of the Old World, Greece was the most favourably situated of all ancient countries, not even excepting Palestine. In proportion to its area, the coast-line greatly exceeds that of any other country, being estimated at one mile of seaboard to every seven miles of surface. The surface, however, is highly mountainous, while the centre of the Morea forms an elevated plateau.

Area and Population.—The area of Greece, including the Ionian Islands recently ceded to it by Great Britain, is estimated at 20,151 square miles, or two-thirds the size of Scotland. The population in 1871 was 1,457,894, or somewhat more than two-fifths of the population of the latter country.

Political Divisions.—The kingdom now consists of four distinct natural divisions—viz., 1. Hellas, or the strictly continental part, which formed the late Turkish province of Livadia; 2. The Morea, or Peninsula, named Peloponnesus by the ancients, and Tripolitza by the Turks; 3. The Cyclades, consisting of numerous islands in the Ægean Sea; and 4. The Ionian Isles, west of Greece, forming, until now, a republic dependent on Great Britain. The political divisions are called *nomes*, and are ten in number (see 'Manual,' p. 372).

Hellas.—ATHENS 48 Piræus 6 (Gulf of Ægina), Thebes 9 (Asopo), Livadia 9 n. (Lake Topolias), Egripo 5 (west coast of Eubœa), Salona 6, Lepanto 3 (Gulf of Lepanto), Zeitoun 5 n. (Hellada), Mesolonghi 6 (Gulf of Patras).

Morea.—Nauplia 10, Argos 11 (Gulf of Argolis), Corinth 2 (Gulf of Lepanto), Patras 26 (Gulf of Patras), Navarino 2 (west coast), Sparta 7 (Eurotas), Tripolitza 7 (Roufia).

Cyclades.—Syra 25 Andros 5, Naxia 4, Hydra 13 (on islands of same name).

Ionian Isles.—Corfu 25 (Corfu), Santa Maura (Santa Maura), Argostoli 5 (Cephalonia), Zante 20 (Zante).

Descriptive Notes.—The towns are all of very small size, rarely amounting to 5000 inhabitants; eight exceed 10,000; five are above 20,000; even the capital, including the Piræus, does not amount to 55,000.

ATHENS, capital of the kingdom, and one of the most renowned cities of the ancient world, is said to have been founded by Cecrops, B.C. 1836. After having been for ages the seat of literature and science, it fell into the hands of the Romans, B.C. 86; in A.D. 898 it was taken by the Goths under Alaric, who reduced it almost to a heap of ashes: it remained an almost deserted place during the greater part of the middle ages, and in 1687 it fell under the power of the Turks, under whom it remained till 1830, when it became the seat of the Greek Government. Piræus, the port of Athens, from which it is distant five miles. Thebes, founded by Cadmus the Phœnician about B.C. 1549, was at one time a place of great wealth and importance. Livadia, capital of Hellas under the Turks. Egripo or Negropont, the birthplace of Aristotle, is the principal town in the island Eubœa. Lepanto, near which, in 1571, the Turkish fleet was totally defeated by the combined fleets of the Christian states of the Mediterranean. Zeitoun, near the famous Pass of Thermopylæ, where 300 Spartans gallantly perished in opposing the Persian invaders, B.C. 489. Mesolonghi, a small fortified town, which greatly distinguished itself in the war of independence, and the scene of

Lord Byron's death in 1824. *Nauplia*, a strongly-fortified town on the Gulf of Argolis, and the scene of the late insurrection, which resulted in the flight of King Otho and the abdication of the throne. *Argos*, long the capital of Argolis, is considered the most ancient city in Greece. *Corinth*, once a great and opulent city, and the emporium of trade between Europe and Asia, is now reduced to a ruere village. *Patras*, the principal seat of the foreign trade of Greece. *Navarino* is chiefly celebrated in modern times for the victory of the English, French, and Russian fleets over those of the Turks and Egyptians in 1827. *Sparta*, in ancient times the chief city of the Peloponnesus, and one of the most famous in Grecian history, after being desolate for ages, is now being rebuilt. *Tripolitea*, the capital of the Morea under the Turks, was stormed and taken by the Greek insurgents in 1821. *Syra*, or *Hermopolis*, the principal commercial city in Greece, possesses an excellent harbour. *Hydra*, an important commercial town, situated on an island of same name at the southern entrance of the Gulf of Egina. *Corfu*, capital of the late republic of the Ionian Isles, has been strongly fortified by the British Government, and is the seat of a university. *Zante*, a thriving town, and capital of the most fertile and densely peopled of all the Ionian Islands.

Capes.—*Punta* and *Scrophia*, W. of Hellas ; *Klarenza*, W. of the Morea ; *Gallo*, *Matapan*, and *Malea*, S. of the Morea ; *Skillo*, E. of the Morea ; *Colonna* and *Doro*, S.E. of Hellas.

Punta, the ancient *Actium*, off which Augustus gained the great naval victory over Anthony and Cleopatra. *Colonna* (ancient Sunium), so named from the splendid temple of Athena which crowned its brow, the columns of which still exist.

Islands.—The islands are very numerous, and consist of four leading groups. 1. The Ionian Isles, W. of Greece, the principal being *Corfu*, *Santa Maura*, *Cephalonia*, *Zante*, and *Cerigo*. 2. *Negropont* or *Eubœa*, E. of Hellas, and the largest island in Greece. 3. The Cyclades, between the Morea and Asia Minor, principal—*Andros*, *Tinos*, *Naxos*, *Paros*, *Syra*, *Zea*, *Thermia*, *Serfo*, *Siphanto*, and *Milo*. 4. The Sporades, or scattered islands, partly in the Gulf of Egina, and partly N.E. of *Negropont*.

Gulfs and Straits.—Gulf of *Arta*, N.W. of Hellas ; *Patras* and *Lepanto*, between Hellas and the Morea ; *Koron*, *Laconia*, and *Argolis*, S. of the Morea ; *Egina*, between *Argolis* and *Attica* : Channels of *Egripo*, *Talanta*, and *Trikeri*, between *Eubœa* and the mainland.

Mountains.—The mountains of Greece form a continuation of the *Pindus* range which separates *Thessaly* from *Albania*.

On arriving at the Grecian frontier, this chain bifurcates, one branch (*Mount Othrys*, 5700 feet) forming the boundary between *Thessaly* and Greece, and the other (the *Ceta* range) pursuing a S.E. direction to *Cape Colonna*, in *Attica*. The principal mountains in the latter range are *Mount Guiona*, the culminating point of Greece, 8241 feet ; *Parnassus*, 8068 feet ; *Helicon*, 4963 feet ; and *Hymettus*, 3370 feet. The only mountain of great elevation in the Morea is *Taygetus*, 7903 feet. None of these summits attains the elevation of the snow-line, though some of them approach it closely.

Rivers and Lakes.—Owing to the peninsular character of the country, and the numerous deep indentations of the surrounding seas, none of the rivers of Greece attains to any considerable magnitude, the principal streams being the *Aspropotamo* (anc. *Achelous*), the *Fidaris* (anc. *Evenus*), the *Roufia* (anc. *Alpheus*), the *Basili-Potamo* (anc. *Eurotas*), and the *Hellada* (anc. *Sperchius*). The only

lake of importance is Lake Topolias (anc. *Copais*), in the east of Hellas, and even it is little more than a reedy marsh.

Climate.—The climate, though not equal to that of Italy, is extremely mild and agreeable, the air being remarkably clear and free from clouds, and rain being almost unknown, except in autumn, when it becomes frequent and copious.

Snow appears in October, and continues to clothe the mountain summits till summer is far advanced, but it seldom lies any length of time in the valleys and along the coasts. The summers are very warm, the temperature often exceeding 100° Fahr.; mean annual temperature at Athens 60°, mean winter 41°, and mean summer 77°.

Products.—The minerals exhibit a remarkable deficiency in metals, but iron is found in Eubœa associated with coal. Salt, sulphur, marble, and other non-metallic products are abundant, but very sparingly wrought.

The vegetation is singularly rich and varied, most of our finer garden flowers being found in a wild state. Of the numerous fruit-trees the most important are the olive, vine, orange, lemon, fig, almond, citron, pomegranate, and currant-grape. Silk, cotton, and tobacco are produced, but the principal staples of the country are currants, olives, and grapes. Husbandry is in a very backward state, and the grain raised is greatly less than is required for home consumption. The plough in use differs in no respect from that described by Hesiod, 3000 years ago. The ass is almost the only beast of burden, while sheep and goats are the only animals from which dairy produce is obtained. The principal wild quadrupeds are the bear, lynx, wolf, fox, weasel, jackal, boar, stag, roebuck, goat, badger, marten, hare, and hedgehog.

Ethnography.—The people of modern Greece are a mixed race—the pure Hellenic blood having, in the course of ages, become largely intermixed with Slavonic, Teutonic, and even Turkish elements.

Their language, named Romaic, differs as little from the ancient Greek as some of the dialects of the latter differed from each other. The Albanians, who form a majority of the peasantry in many parts of the kingdom, continue to speak the ancient language of their Illyrian progenitors, who seem to have formed a connecting-link between the Slavonic and Greco-Latin races. Nearly all the inhabitants belong to the Greek or Eastern Church, which separated from the Roman or Western, A.D. 862. Other sects, however, exist and enjoy a limited amount of toleration. Education is in a very backward state, but strenuous efforts are made to improve it. The only university is that of Athens, but every important town has its gymnasium, and every village its common school. The literature of Greece, the most copious and brilliant in the history of our race, belongs almost exclusively to ancient times (see 'Manual,' p. 381).

Government and Finance.—The Kingdom of Greece, which had for ages groaned under the yoke of Turkey, finally achieved its independence in 1830, after a bloody and protracted struggle, in which it was aided by the great Powers of Europe.

Until 1862 the Government was an hereditary constitutional monarchy, the legislative authority having been vested in the king, a senate, and a

representative Chamber; but in October of that year an insurrection broke out simultaneously in all parts of the kingdom, Otho, the reigning sovereign, having rendered himself odious to all classes of his subjects. Apprised of his danger, the king immediately fled, and a revolution was effected without a drop of blood being shed. The Greeks, after many unsuccessful attempts to get Prince Alfred of England for their king, have at length succeeded in getting Prince George of Denmark to accept the crown. The army in 1869 amounted to 31,300 men; the navy to 31 small vessels carrying 164 guns; the revenue and expenditure to less than £1,500,000 sterling each; and the public debt to £13,800,000.

Manufactures and Commerce.—The manufactures are few in number, and chiefly domestic, consisting of silk, cotton, and woollen stuffs; but coarse pottery, leather, beetroot-sugar, and soap are made in the principal towns.

The women excel in embroidery, and dyeing in bright colours has been perpetuated from ancient times. The manufacture of oil and wine is so unskilfully carried on, that the former is inferior to that of Italy, while the latter does not keep well. The principal exports are currants, olive-oil, grapes, tobacco, wool, honey, and wax; and the chief imports manufactured goods, flax, timber, and articles of colonial produce. The Greeks are expert mariners, and they have for a long time been the principal agents in conducting the commerce of the eastern part of the Mediterranean. The principal ports are the Piræus, Patras, Nauplia, and Syra. The inland communication of the country is extremely deficient, there being no railroads, with the exception of a short line connecting Athens with the Piræus.

THE TURKISH EMPIRE.

THE Turkish or Ottoman Empire comprehends all the countries in which Turkish supremacy is either directly or nominally recognised. Its vast territories, though situated in the three continents which constitute the Old World, are strictly continuous, comprising a large territory in the south of Europe, extending from the Black Sea to the Adriatic; another, three times as large, in the west of Asia; and a third, of still greater dimensions, in the north-east of Africa.

It is bounded on the N. by Transcaucasia, the Black Sea, and Austria; on the W. by the Adriatic, the Mediterranean, and Algeria; on the S. by the Sahara, Abyssinia, and Yemen; and on the E. by the Arabian Desert, Persia, and Transcaucasia. It thus comprehends, in addition to European Turkey, the whole of Asia Minor, Armenia, Mesopotamia, Syria (including Palestine), the Hedjas (in Arabia), Egypt, Nubia, Kordofan, Tripoli, Fez, and Tunis. The African provinces are nearly independent, while the tie that connects many of the remainder with the Sultan of Constantinople is little more than nominal. The total area is vaguely estimated at 1,832,000 square miles, or nearly half the extent of Europe; but the population is very sparse, not exceeding 36,000,000 (in 1844), or only one-fourth more than the population of the British Isles.

TURKEY IN EUROPE.

Boundaries.—N., the Hungarian provinces of Austria; W., Dalmatia, the Adriatic, and the Ionian Sea; S., Greece, the Ægean Sea, and the Sea of Marmora; E., the Black Sea and Bessarabia. Lat. 39°—48° 20' N.; lon. 15° 40'—30° E.

Constantinople, the capital of the empire, situated not far from its centre, is nearly on the same parallel as New York, Madrid, Naples, Bokhara, and Pekin; and nearly on the same meridian as St Petersburg, Alexandria, and Port Natal. Omitting the northern portion of Moldavia, the configuration of European Turkey resembles a trapezium with its base resting on Austria, and having its two sides washed by the Adriatic and the Black Sea respectively. The greatest length, from W. to E., is 650 miles; and the extreme breadth, from the Save to the frontiers of Greece, 400 miles. The greater part of the surface consists of an undulating region of hills and valleys, of lofty mountain-ranges, and of table-lands of moderate elevation. The coast-line, reckoned at 1300 miles in length, stretches along five seas, and is for the most part bold and rugged.

Area and Population.—The area is generally estimated at 207,500 square miles, or four times the size of England without Wales; while the population in 1845 was computed at 16,440,000, or nearly the same as that of England in the same year.

Political Divisions.—Including the Danubian Principalities (Servia, Wallachia, and Moldavia), which are nearly independent, and the island Crete, the European portion of the empire is divided into eleven provinces.

Bosnia and Croatia.—Bosna Seraf 70 n. (Bosna, *affl.* Save), Zvornik 14 (Drina), Banialuka 8 (Verbas), Novi Bazar 15 (Ibar).

Herzegovina.—Mostar 8 (Narenta), Trebigno 10 (Tribinschucza).

Montenegro.—Cetigne (*affl.* Boyana).

Albania.—Scutari 24 (Boyana), Jacova 18, Prisrend 25 n. (Drin), Janina 25 (L. Janina).

Thessaly.—Larissa or Yenitcher 25, Tricala 10 n. (Salembria).

Rumelia.—CONSTANTINOPLE 1,075 (Bosporus), Monastir 30 (Tzerna), Salonika 70 (Gulf of Salonika), Seres 30 (Strymon), Adrianople 150, Philippopolis 40 (Maritza), Gallipoli 50 (Dardanelles), Rodosto 40 (Sea of Marmora).

Bulgaria.—Sophia 30 (Isker, *affl.* Danube), Silistria 24, Rustchuk 30, Sistova 20, Nicopoli 20, Widdin 25 (Danube), Shumla 60 (Kamtchik), Varna 16 (E. coast).

Servia.—Belgrade 20 (Danube), Pristina 12 (Ibar).

Wallachia.—Bucharest 122 n. (Arjish, *affl.* Danube), Ibrail 6 (Danube).

Moldavia.—Jassy 66 n. (Pruth), Ismael 26, Galacz 36 (Danube).

Crete.—Candia 30 (N. coast).

Descriptive Notes.—European Turkey has only three towns of more than 100,000 inhabitants (Constantinople, Adrianople, Bucharest); five between 100,000 and 50,000 (Bosna-Seraf, Salonika, Shumla, Gallipoli, Jassy); twenty-three between 50,000 and 20,000; and sixteen between 20,000 and 10,000.

Constantinople, the capital of the empire, is situated on the Bosphorus, a strait which connects the Black Sea with the Marmora. It is a manufacturing city on the Marmora, and is the principal commercial centre of the empire. It is situated in the vicinity of the city of Constantinople, and is the capital of the province of Constantinople. It exports hides, wool, and other goods, and is almost entirely dependent on the commerce of the Marmora.

wholly independent, is a mere mountain village. *Scutari*, capital of Albania, is an important commercial town, and the centre of a great inland trade. *Prisrend*, the residence of the Turkish governor, is noted for its firearms. *Janina*, beautifully situated on a lake of same name, was the stronghold of the notorious Ali Pasha: in the vicinity once stood *Dodona*, the seat of the most celebrated oracle of antiquity. *Larissa*, an important manufacturing town, noted for its dye-works: near it *Satalge*, the ancient Pharsala, memorable for the decisive victory obtained by Cæsar over Pompey, B.C. 48. CONSTANTINOPLE (Turk. *Stamboul*, anc. *Byzantium*), a large and celebrated city, formerly capital of the Byzantine, and now of the Ottoman empire, occupies a triangular promontory between the Bosphorus and its inlet, the Golden Horn. Its aspect, when approached by water, is very striking; but the houses are mostly of wood, and the streets narrow and dirty. The principal manufactures are those of morocco leather, shoes, and meerscham pipes. Constantinople is the seat of the principal foreign trade of Turkey, and in point of population ranks next to London and Paris. *Monastir*, or *Bitolia*, a principal entrepôt for the goods passing from eastern to western Turkey. *Salonica* (anc. *Thessalonica*), a large seaport, and the second commercial city in European Turkey, is intimately connected with the travels and writings of St Paul. *Seres*, the centre of cotton cultivation in European Turkey. *Adrianople*, next to the capital the most populous city in the European portion of the empire, derives its name from the Emperor Hadrian, who founded it A.C. 878. It was the capital of the empire from 1366 to 1453; it has extensive dye-works, and manufactures of silk, cotton, and woollen goods. *Philippopolis*, or *Filippi*, founded by Philip of Macedon, is a large manufacturing and commercial town, on the Maritza. *Gallipoli*, at the northern entrance of the Dardanelles, and the first European town captured by the Turks, is the principal station of the Turkish fleet. *Rodosto*, an important commercial city on the Sea of Marmora. *Sophia*, capital of Bulgaria, situated on the grand route from Constantinople to Belgrade, has very extensive commerce. *Silistria*, *Rustchuk*, *Sistova*, *Nicopoli*, and *Widdin*, commercial and fortified towns on the south bank of the Danube, and the scenes of numerous conflicts between the Turks and Russians. *Skumia*, situated in one of the passes of the Balkans, is strongly fortified, and reckoned one of the keys of the metropolis. *Varna*, the principal port of Turkey on the Black Sea, and strongly fortified, is the place from which the Anglo-French army embarked for Sevastopol in 1854. *Belgrade*, the capital of Servia, a nearly independent principality, is a strongly fortified city at the confluence of the Danube and Save, the entrepôt of the commerce between Turkey and Austria, and the most advanced outpost of Mohammedanism in Europe. *Bucharest*, capital of Wallachia, is a place of great commerce: here was concluded the famous treaty of Bucharest, by which, in 1812, Bessarabia and a part of Moldavia were ceded by Turkey to Russia. *Ibrail*, or *Brailor*, a small fortified town on the Danube, and the chief port of Wallachia. *Jassy*, or *Yassy*, capital of the province Moldavia, maintains an active commerce in agricultural produce. *Imael*, a strongly fortified town, stormed by the Russians under Suwarrow in 1790, was ceded to Turkey in 1855. *Galace* (pron. Galatsh), a principal steam-packet station, and the only port for the exports and imports of Moldavia. *Candia*, also called *Megalo Kastro*, capital of the island Crete, came into the hands of the Turks in 1669: the population is almost wholly Mohammedan.

Capes and Islands.—*Linguetta*, on the W. coast of Albania; *Paliuri*, *Drapano*, and *Monte Santo*, S.E. of Macedonia; *Kalagria*, E. of Bulgaria. *Islands*: Crete or *Candia*, S.E. of Greece; *Scarpanto*, between Crete and Rhodes; *Lemnos*, *Imbros*, *Samothraki*, and *Thaso*, in the N. of the *Ægean Sea*. (See under "Asiatic Turkey.")

Seas, Gulfs, and Straits.—The *Adriatic* and *Ionian Seas*, between Turkey and Italy; *Ægean Sea*, between Thessaly and Anatolia; *Sea of Marmora*, between Thrace and Anatolia; *Black Sea*, between European Turkey and Circassia. *Strait of Otranto*, joining the *Adriatic* and *Ionian Seas*; *Gulf of Arta*, between Albania and Hellas; *Gulf of Volo*, S.E. of Thessaly; *Gulfs of Salonika*, *Contessa*,

and Saros, S. of Rumelia; Dardanelles or Hellespont, connecting the *Ægean* Sea with the Sea of Marmora; Bosphorus or Channel of Constantinople, uniting the Sea of Marmora with the Black Sea.

Mountain System.—European Turkey embraces three great mountain-ranges, which divide the country into three climatic zones, and which form the great watersheds between them.

The *Western* or *Hellenic Range*, forming a continuation of the Julian Alps of Illyria, extending southward to the Grecian frontier, and separating the basins of the Adriatic and Ionian Seas from those of the Danube and *Ægean* Sea. This range is known as the *Dinaric Alps* in the north, and as *Grammos* or the *Pindus Chain* in the south: Mount Olympus, in the N. of Thessaly, the culminating point of the whole peninsula, 9749 feet, lies considerably E. of the range. The other loftiest summits are, Mount Dinara, in Croatia, 7458 feet; Mount Pindus, between Albania and Thessaly, 8950 feet; and Mount Ida, in Crete, 7674 feet. Height of snow-line on Mount Olympus, 9000 feet.

The *Balkan*, or *Hæmus* range, branching off at right angles from the Hellenic range, and extending eastward to Cape Emineh in the Black Sea, separates the basin of the Danube from that of the *Ægean* Sea. The Balkan proper, or principal chain, contains the highest summits of the range—viz., Tohar Dag (anc. *Scardus*), in the N.W. of Macedonia, 9700 feet; Great Balkan, 8874 feet; Emineh Dag, 7500 feet. A lateral range, named Despoto Dag (anc. *Rhodope*), branches off southwards from the middle of the main range, separating the basins of the Maritza and Karasu, and containing Rilo Dag, 8313 feet, and Mount Athos, an outlier, 9628 feet.

The *Eastern Carpathians*, separating Wallachia and Moldavia from the Hungarian provinces of Austria, and the basin of the Theiss from that of the Lower Danube (see under “Austria”).

Table of Rivers and Towns.—The rivers of European Turkey are naturally divided into three groups—viz., those flowing westward to the Adriatic and the Ionian Sea, those flowing southward to the *Ægean* Sea and the Sea of Marmora, and those flowing eastward to the Black Sea. The Danube having been exhibited in full under “Austria,” need not be here repeated.

Basins inclined to the Adriatic and Ionian Seas.

Rivers.

Towns.

Narenta	MOSTAR.
Trebinschucza	Trebigno.
Boyana	SCUTARI, CETIGNE, n.
Drin	Alessio, Prisrend, n., Jacova, n.
Ergent	Berat.
Vojutza	Avlona or Valona.
Arta	Arta, Janina, n.

Basins inclined to the Ægean Sea and Sea of Marmora.

Salembria	LARISSA, Tricala, n.
G. of Salonika	Salonika.

Basins inclined to the Ægean Sea and Sea of Marmora—(cont.)

<i>Rivers.</i>	<i>Towns.</i>
Vardar	Uskup.
Tzerna	Monastir or Bitolia.
Strymon.....	Seres.
Maritza.....	Adrianople, Philippopolis.
Dardanelles	Gallipoli.
Sea of Marmora	Rodosto.
Bosporus	CONSTANTINOPLE.

Basins inclined to the Black Sea.

Kamtchik	Shumla.
Pravadi	Varna.
Danube	See under "Austria," p. 108.

Lakes.—The principal lakes are Scutari, in the N.W. of Albania, drained by the Boyana; Ochrida, between Albania and Macedonia, drained by the Drin; and Janina, in the S.E. of Albania, in the basin of the Arta. There are also several large fresh-water lagoons near the mouth of the Danube, as Rassein, Jalpuch, &c.

Climate.—The temperature is characterised by sudden and violent fluctuations, especially around the capital, and is, in general, greatly lower than in corresponding latitudes in other parts of Europe.

In Wallachia and Moldavia, for example, the thermometer sometimes descends in winter to 15° below zero, while, as in Russia, the sledge is employed in travelling. South of the Balkan range the climate is less rigorous, the country being protected from N.E. winds. Albania, though enjoying a delicious climate, is frequently visited by destructive earthquakes; while in the southern and central provinces the vine, olive, maize, rice, and the cotton plant are successfully cultivated. At Constantinople, the mean temperature for the year is 56°, for winter 41°, and for summer 71°. The annual quantity of rain rarely exceeds 32 inches in any part of European Turkey.

Products.—Iron and lead of the best quality are very abundant, but owing to the entire absence of coal, and the slothfulness of the people, very few mines are in actual operation.

Forests are extensive in all parts of the country, while fruit-trees of numerous species are extremely abundant. The vine is grown over the whole country, but north of the Balkans the fruit is far inferior to that obtained in the south and west. Though the soil is in most parts abundantly fertile and admirably adapted for the growth of corn, agricultural operations are conducted in the most unskilful manner, and probably not more than one-sixth of the surface is under cultivation. The wild animals, including 65 mammals, 259 birds, 27 reptiles, and about 444 fishes, differ in few respects from those of the Italian peninsula. The fishes and other inhabitants of the Black Sea, though fewer in number than those of the Mediterranean, are in almost every instance identical with them in species.

Ethnography.—The population of European Turkey belongs, for

the most part, to three distinct races—the Slavonian, Greco-Latin, and Turkish.

The Slavonians, who are by far the most numerous, people Bulgaria, Serbia, Bosnia, Herzegovina, Montenegro, and Thessaly. The Greco-Latins occupy Wallachia, Moldavia, and the greater part of Albania, and also embrace about a million of Greeks proper in Rumelia and Thessaly. The large province of Rumelia, especially the part of it extending from the Vardar to the Black Sea, is chiefly inhabited by the Turks or Osmanlee, so named from Osman, the ancestor of the present ruling dynasty and founder of the Turkish empire (A.D. 1288). The Osmanlee, who are also called Ottomans, are of Asiatic origin, and are distinguished from other nations by their language, customs, and physical character. Though the dominant race in European Turkey, they are numerically a mere fraction of the population, probably not exceeding 1,500,000 persons. Besides the capital and the eastern part of Rumelia, they form a considerable fraction of the population of most of the large towns. The Turkish language, a rich and polished tongue, forms an important member of the great Finno-Tartarian family (see under "Asia"). The principal Slavonic dialects spoken in Turkey are the Bulgarian, Servian, Bosnian, and Croatian; while the chief Greco-Latin tongues are the Romain or Modern Greek, the Wallachian, which is little else than a corrupted Latin, and the Albanian or Arnaute, the probable representative of the ancient Illyrian. The Slavonians and Greco-Latins, numbering together about 10,000,000, belong to the Greek Church; the Osmanlee, together with a large portion of the inhabitants of Albania, amounting in the aggregate to upwards of 4,000,000, are Mohammedans; while the remainder of the population are Roman Catholics, Armenians, Protestants, Jews, and Gypsies. Formerly the punishment of death was inflicted on any one renouncing the religion of the Korán; and though by a recent decree of the emperor all persecution on religious grounds is abolished, the bigotry of the Mohammedans remains unmitigated. Since the Crimean war, however, scriptural truth has made considerable progress. The great mass of the people are almost wholly uneducated; for though elementary schools are somewhat numerous, the knowledge communicated in them is of the most meagre description.

Government and Finance.—The government is an hereditary absolutism, the Sultan or Emperor being assisted by thirteen ministers, at the head of whom is the Grand Vizier.

On his accession to the throne, the Sultan, instead of being crowned like other European sovereigns, is girt with the sword of Osman, and made to swear that he will govern the empire in strict accordance with the principles of the Korán. The government of the provinces is administered by pashas, who are absolute in their respective territories, but hold office only during the pleasure of the Sultan. Persons of the meanest origin and basest character are frequently elevated to the office of pasha: hence many of the provinces, especially in Asia, are reduced to deserts, from the rapacity and extortion of their rulers. Corruption, indeed, pervades every department of the state, whether civil, military, or ecclesiastical, and the entire empire threatens to fall speedily to pieces—a consummation which had long ere now been realised, except for the intervention of other European powers. Before the late war with Russia, the imperial army amounted to 178,000 men, besides the

armies of Wallachia and Moldavia: in 1869, it numbered 460,000. Before the war the navy comprised 70 vessels, carrying 4000 guns. The Russians destroyed many of the ships at Sinopé, and the fleet in 1869 amounted to 185 armed vessels, mounting 2370 guns. The receipts, in 1870, amounted to £16,000,000; the expenditure to £18,000,000; and the public debt, interior and exterior, to £74,000,000.

Manufactures and Commerce.—Manufacturing industry is for the most part confined to the production of coarse articles for home consumption; but fine cottons, silks, and embroidery are made in the capital and in some of the principal provincial towns.

The exports mainly consist of raw material, drugs, fruit, with shawls and other articles of Oriental taste derived from the Asiatic provinces of the empire. The imports embrace corn, articles of colonial produce, and a great variety of manufactured articles, chiefly from England, which since the close of the Russian war sends to Turkey goods valued at nearly six millions sterling. Constantinople is the chief seat of the foreign trade, which, together with the internal traffic, is chiefly conducted by the Greeks, Armenians, and English. The roads are seldom practicable for wheeled conveyances, and there are only 560 m. of railway (both in Rumania); but the Danube forms an excellent highway of commerce for the northern provinces.

THE RUSSIAN EMPIRE.

THE Russian Empire is the largest in the world, with the exception of the British, which considerably exceeds it. In addition to its European territories, which occupy more than a half of the continent, it embraces one-third of the vast continent of Asia. It is 4830 miles long, has an average breadth of 1750 miles, and an area of nearly 8,000,000 sq. m., being upwards of one-seventh of the land surface of the globe. In proportion, however, to its prodigious extent, the population is remarkably small, being in 1867 only 82,160,000, or one-sixteenth of the population of the globe.

RUSSIA IN EUROPE.

Boundaries.—N., the Arctic Ocean and Norway; W., Sweden, the Baltic, Prussia, Austria, and Moldavia; S., the Black Sea and Mount Caucasus; E., the Caspian Sea and Siberia. Lat. 40° 20'—70° N.; lon. 17° 50'—67° E.

Moscow, the former capital (lat. 55° 45'), is situated almost exactly in the centre, on the same parallel as Edinburgh, Copenhagen, Tomsk, Kamtschatka, Nain in Labrador, and the S. boundary of the territory of Alaska; and on the same meridian as Onega, Kertch, Aleppo, Damascus, Medina, Gondar, and Quillimané; but St Petersburg, the modern capital, is in the same latitude as Cape Farewell, Lerwick, and Christiania. Omitting Poland, the form is a tolerably regular oblong, 2000 miles from E. to W., by 1500 miles from N. to S. The coast-line, which belongs to four seas, is 5200 miles in length, or one mile of coast to every 400 of

surface; but the northern seaboard is comparatively useless, being blocked up with ice for nine months in the year. With one or two unimportant exceptions, the entire surface consists of a vast, continuous, and slightly elevated plain, extending from the Arctic Ocean to the Black Sea, and from the Baltic to the Caspian.

Area and Population.—The area of European Russia, including Caucasasia (formerly Circassia and Transcaucasias), is estimated at 2,110,000 square miles. This, though little more than a fourth part of the entire empire, is seventeen times the size of the British Isles, or about three-fifths of the area of Europe. The population in 1867 amounted to 75,857,218, being 32 persons to each square mile.

Political Divisions.—European Russia is now divided into sixty-four governments, and Transcaucasias into four additional. These are grouped into the following ten geographical divisions—viz., 1, the Baltic Provinces; 2, the Principality of Finland; 3, Muscovy or Great Russia; 4, the Czarate of Kasan; 5, the Czarate of Astrakhan; 6, Russian Poland; 7, West Russia; 8, Little Russia; 9, Southern Russia; 10, Caucasias.

THE BALTIC PROVINCES, FOUR GOVERNMENTS.

St Petersburg.—ST PETERSBURG 667, Cronstadt 45 n. (Neva).

Esthonia.—Revel 29 (Gulf of Finland).

Livonia.—Riga 102 (Düna), Dorpat 14 (Embach).

Courland.—Mittau 23 (Treider Aa).

PRINCIPALITY OF FINLAND, EIGHT GOVERNMENTS.

Finland.—Helsingfors 27, Abo 17, Sveaborg 4 (Gulf of Finland).

MUSCOVY OR GREAT RUSSIA, NINETEEN GOVERNMENTS.

Archangel.—Archangel 25 (Dwina).

Olonetz.—Petrozavodsk 8 (Lake Onega).

Vologda.—Vologda 19 (Suchona, *affl.* Dwina).

Novgorod.—Novgorod 16 (Volkhov, *affl.* Neva).

Jaroslav.—Jaroslav 30 (Volga).

Kostroma.—Kostroma 14 (Volga).

Pskov.—Pskov 10 (Velikaja, *affl.* Naroval).

Tver.—Tver 30 (Volga), Torshok 15 (Twertza).

Vladimir.—Vladimir 7 (Kliazma, *affl.* Oka).

Nijni-Novgorod.—Nijni-Novgorod 41 (*confl.* Volga and Oka).

Smolensk.—Smolensk 23 (Dnieper), Viasma 12 (Viasma).

Kaluga.—Kaluga 37 (Oka, *affl.* Volga).

Tula.—Tula 58 (Upa, *affl.* Oka).

Riazan.—Riazan 9 (Oka).

Moscow.—Moscow 400 (Moskva, *affl.* Oka), Kolomna 16 (Oka).

Orel.—Orel 44 (Oka), Jeletz 28 (Sosna, *affl.* Don).

Kursk.—Kursk 27 (Seim, *sub-affl.* Dnieper).

Voronetz.—Voronetz 40 (Voronetz, *affl.* Don).

Tambov.—Tambov 36 (Tzna, *affl.* Oka), Kozlov 20 (Voronetz).

CZARATE OF KASAN, FIVE GOVERNMENTS.

Perm.—Perm 19 (Kama, *affl.* Volga), Ekaterinburgh 11 (Isset).

Viatka.—Viatka 15 (Viatka, *affl.* Kama).

Kasan.—Kasan 79 (Volga).
Simbirsk.—Simbirsk 25 (Volga).
Penza.—Penza 25 (Sura, *affl.* Volga).

CZARATE OF ASTRAKHAN, FIVE GOVERNMENTS.

Saratov.—Saratov 93 (Volga).
Samara.—Samara 34 (Volga).
Orenburg.—Orenburg 33, Uralsk 13 (Ural).
Astrakhan.—Astrakhan 48 (Volga).
Ufa.—Ufa 16 (Ufa).

KINGDOM OF POLAND, FIVE GOVERNMENTS.

Poland.—Warsaw 180, Plock 13 (Vistula), Radom 10 (Radomka), Lublin 19 (Bistricza), Suwalki 13 (Szezupa).

WEST RUSSIA, EIGHT GOVERNMENTS.

Kovno.—Kovno 35 (Niemen).
Wilna.—Wilna 79 (Vilia, *affl.* Niemen).
Vitebsk.—Vitebsk 28 (Düna).
Grodno.—Grodno 26 (Niemen), Bialystok 11 (Bialy).
Minsk.—Minsk 36 (Svislotsh, *sub-affl.* Dnieper).
Moghilev.—Moghilev 40 (Dnieper).
Volhynia.—Jitomir 38 (Teterev, *affl.* Dnieper), Berditchev 52 (Guilopiat).
Podolia.—Kaminiets 21 (Smotrish, *affl.* Dniester).

LITTLE RUSSIA, OR THE UKRAINE, FOUR GOVERNMENTS.

Tchernigov.—Tchernigov 8 (Desna, *affl.* Dnieper).
Kiev.—Kiev 74 (Dnieper).
Poltava.—Poltava 32 (Vorskla, *affl.* Dnieper).
Kharkov.—Kharkov 60 (Kharkova, *affl.* Donetz).

SOUTH RUSSIA, FIVE GOVERNMENTS.

Bessarabia.—Kishenau 104 n., Akerman 26 (Dniester).
Kherson.—Kherson 46 (Dnieper), Nikolaiev 69 (Bug), Odessa 121 (S. coast).
Taurida.—Simferopol 17 (Salghir), Eupatoria 15, Sevastopol (W. coast Crimea), Bakchiserai 14 n. (Alma).
Ekaterinoslav.—Ekaterinoslav 20 (Dnieper), Taganrog 24 (Sea of Azov), Rostov 39 (Don).
Don Cossacks.—Novo Tcherkask 17 n., Staro-Tcherkask 14 (Don).

CAUCASIA, FIVE GOVERNMENTS AND THREE TERRITORIES.

Stavropol.—Stavropol 17 (Jachla), Kizliar 12, Mozdok 11 (Terek).
Kuban Ter.—Jeisk 17 (G. of Taganrog), Ekaterinodar 10 (Kuban).
Terek Ter.—Vladi-Kaukas 4 (Terek), Akhalkikh 15 (Kur).
Tiflis.—Tiflis 71, Elizabetpol 15 (Kur).
Erivan.—Erivan 12 (Zenghi), Alexandropol 15 n. (Arpar).
Shemakha.—Baku 13 (Caspian), Nukha 21 (Kur), Shusha 20 (Aras).
Daghestan Ter.—Derbend 12 (Caspian), Kuba 11 (Kuba).
Kutais.—Kutais 4 (Rion).

Descriptive Notes.—Including Caucasia, part of which is situated beyond the limits of this continent, European Russia contained at the last census six towns of upwards of 100,000 inhabitants (St Petersburg, Moscow, Warsaw, Odessa, Kishenev, and Riga); nine between 100,000 and 50,000 (Saratov, Wilna, Kazan, Kiev, Tiflis, Nicolaiev, Kharkov, Tula, and Berdilchev); fifty between 50,000 and 20,000; and ninety between 20,000 and 10,000.

BALTIC PROVINCES AND FINLAND.—**ST PETERSBURG**, capital of the empire, situated on both sides of the Neva, was founded by Peter the Great in 1703, and contains already upwards of half a million inhabitants. Though built principally of wood, the palaces and public buildings are massive stone erections, and altogether it is worthy of the mighty empire of which it is the metropolis. Its commerce is extensive with all parts of the world, the exports being valued at £2,000,000, and the imports at £3,000,000. *Cronstadt*, an impregnable fortress on a small island near the mouth of the Neva, is the port of St Petersburg, and the principal naval station of the empire. *Revel*, a strongly fortified seaport town, and at one time the great emporium of the Hanseatic League, was taken from Sweden in 1710. *Riga*, a large fortified commercial city near the mouth of the Dûna, and long one of the chief Hanseatic towns, exports immense quantities of flax and hemp. *Dorpat*, with a university the most ancient in Russia, founded in 1632. *Helsingfors*, the capital of Finland since 1819, is defended by the strong fortress of *Sveaborg*, which was assailed with some success by the Anglo-French fleet in 1855. *Abo*, the former capital of Finland and the cradle of its Christianity, is now falling into decay.

MOSCOW.—*Archangel*, the most important town in the north of Russia, and the emporium of the trade with Siberia and the northern governments. *Vologda*, a place of considerable trade, with a large annual fair. *Novgorod*, at one time the capital of an independent state, and a great commercial emporium, has fallen into insignificance since the founding of St Petersburg. *Jaroslavl*, an important manufacturing town on the Volga. *Kostroma* and *Pskov*, noted for the manufacture of Russia leather. *Tver*, a fortified town on the Volga and on a canal which establishes a connection between the Baltic and the Caspian, possesses an extensive trade. *Nijni-Novgorod*, at the confluence of the Volga and Oka, is noted for its great annual fair, the largest in the world, which commences on the 1st of July, continues eight weeks, and is frequented by merchants from all parts of Europe and Asia. *Smolensk*, famous for the sanguinary battle between the French and Russians, August 17, 1812, when the former were victorious. *Kaluga*, one of the most important manufacturing towns in the empire, the manufactures consisting of cloth, cotton, leather, paper, oil, and muskets. *Tula*, the Birmingham of Russia, and the great seat of its iron manufactures: here vast quantities of arms are produced annually, giving employment to 20,000 workmen. *Moscow*, the former capital of Russia, and still the second city in the empire, greatly surpasses St Petersburg in the extent of its commerce, having water communication with all the principal cities and ports in European Russia. Its innumerable towers and minarets, especially the new Kremlin, excite the admiration of all travellers. Moscow was burned by the Russian general after his defeat by the French army at Borodino, Sept. 7, 1812, and thus Napoleon was compelled to begin his disastrous retreat. *Orel*, a place of very extensive commerce. *Jelets* has important iron mines in its vicinity. *Kursk* and *Voronetz* are important commercial and manufacturing towns. *Tambov*, strongly fortified, contains a college and military school for the nobles.

KASAN AND ASTRAKHAN.—*Perm*, the chief emporium for the trade with China, which consists mainly of metallic products obtained from the neighbouring mines. *Ekaterinburg*, on the Asiatic side of the Urals, is the centre of the great iron-works belonging to the crown. *Kasan*, the great entrepôt of the commerce of European Russia with Siberia and Bokhara. *Saratov*, a large, fortified, commercial and manufacturing city on the Volga. *Samara*, the capital of a new government, has a trade in *caviare*, an article of food prepared from the roe of the sturgeon. *Astrakhan*, a thriving commercial city on one of the mouths of the Volga, is the chief entrepôt of the commerce of Russia with Persia and India, and the seat of an extensive fishery.

POLAND AND WEST RUSSIA.—*Warsaw*, the capital of Poland since 1566, and the great entrepôt of its commerce, is, in point of population, the third city in the empire. It is one of the principal stations of the Russian army, and the scene of unparalleled atrocities on the part of the Russians, during the Polish insurrection of 1863. *Lublin* has extensive cloth manufactures, and a trade in corn and Hungarian wines. *Wilna*, the former capital of Lithuania, is a populous city, containing many Jews. *Grodno*; here Stanislaus, the last king of Poland, abdicated the throne in 1795. *Minsk*, *Moghilev*, and *Jitomir* are important commercial and manufacturing towns in the basin of the Dnieper. *Berditshev* carries on great trade at its four annual fairs, at which goods to the value of £800,000 are disposed of.

THE UKRAINE AND SOUTH RUSSIA.—*Kiev*, a large, populous, and fortified city on the Dnieper, is noted for its arsenal, its richly-endowed university, and its ancient catacombs. *Poltava* contains a monument to Peter the Great, who here signally defeated Charles XII. of Sweden in 1709. *Kharkov*, a large city, with a university, numerous manufactures, and extensive trade. *Kishenau*, the fifth city in Russia in regard to population, has extensive manufactures of woollen cloths. *Akerman*; here was concluded, in 1826, a treaty exempting Wallachia and Moldavia from all but a nominal dependence on Turkey. *Kherson*, a fortified town near the mouth of the Dnieper, and the scene of the death of Howard the philanthropist, in 1790. *Odesa*, the fourth city in Russia in regard to population, and the third in commercial importance, is the great emporium of southern Russia, vast quantities of corn being annually exported from it. *Nikolaiev*, the principal naval arsenal of Russia in the Black Sea since the destruction of Sevastopol. *Eupatoria*; here part of the Anglo-French army landed on their way to Sevastopol, 14th September 1854. *Sevastopol*, formerly the Gibraltar of Russia, and the chief naval arsenal of the Russian fleet, was taken by the allied French and British forces, on 8th September 1855, after nearly a year's siege. *Bakhiserai*, near the Alma, a small river on whose banks the allied army obtained a brilliant victory over the Russians, 20th September 1854: similar victories were obtained at Balaklava and Inkermann, on the 25th October and 5th November following. *Taganrog*, the principal outlet for the countries drained by the Don.

CAUCASIA.—*Stavropol*, the principal town in Ciscaucasia, is well fortified, and has some manufactures of soap and leather. *Tiflis*, formerly the capital of Georgia, and now of Transcaucasia, is strongly fortified, and is the great mart for the interchange of Russian, Prussian, and Persian produce. *Erivan*, formerly capital of the Persian province of Azarbijan, situated on the great caravan route between Tiflis and Erzroum, has a considerable transit trade. *Alexandropol*, a strong fortress situated at an elevation of 5860 feet. *Baku*, capital of government Shemakla, has the best harbour on the western side of the Caspian; it exports vast quantities of naphtha and salt from the Apsheron peninsula. *Derbend*, a place of great strength and importance, being situated at the entrance of a defile in the Caucasus, called by the ancients the "Albanian Gates."

Capes, Islands, and Peninsulas.—Capes Kanin and Sviatoi, at the entrance to the White Sea; Hango Head, S.W. of Finland; Domesnes, N. of Courland; Chersonese, the S. extremity of the Crimea. *Islands*: Vaigatz, Kolguev, and Novaia Zemlia, N.E. of Archangel; Spitzbergen, 700 miles N. of Norway; Aland Isles, S.W. of Finland; Dago and Oesel, W. of Esthonia. *Peninsulas*: Shemo-Khovskaia, between the White Sea and the Gulf of Tcheskaia; the Crimea, in the S. of Taurida; Apsheron, in the Caspian, forming the E. extremity of Mount Caucasus.

Seas, Gulfs, and Straits.—Vaigatz Strait, Tcheskaia Gulf, White Sea, and Varanger Fiord, all in the N. of Archangel; the Baltic, between Russia and Sweden; Gulf of Bothnia, between Finland and Sweden; Gulf of Finland, between Finland and the Baltic Provinces; Gulf of Riga, between Esthonia and Courland; Black Sea, between Russia and Asiatic Turkey; Sea of Azov, between Taurida and Black Sea Cossacks; Strait of Yenikaleh, uniting the Black

Sea and Sea of Azov; Caspian Sea, separating Russia from Persia and Independent Tartary.

Mountain System.—Russia is the least mountainous country in Europe; for though bounded on the S. and E. by two immense mountain-chains, one of which contains several summits greatly loftier than Mont Blanc, the whole of the interior and west consists of one enormous plain of very slight elevation. The only exceptions to this statement are the Valdai Hills in Novgorod, and the mountains of the Crimea which form a continuation of Mount Caucasus.

The *Caucasus*, the loftiest mountain-chain in Europe, separating European Russia from Transcaucasia, and the basins of the Kuban and Terek from those of the Kur and Lion, has a total length of 750 miles, or, including the mountains of the Crimea, of 900 miles. Highest summits—Mount Elburz, the culminating point of Europe, 18,493 feet; Mount Kasbek, 16,523 feet; Tchatir Dag, in the Crimea, 5000 feet; elevation of snow-line, 11,000 feet.

The *Urals*, separating European Russia from Siberia, and the basins of the Petchora and Volga from that of the Obi, extend from Orenburg on the river Ural to the Arctic Ocean, a total distance of 1250 miles. Being of very moderate elevation, they nowhere reach the snow-line. Highest summits—Konjakofski, near the centre of the range, 5397 feet; Taganal, lat. 55° 20', 3592 feet; Obdorsk, near the arctic circle, 5286 feet.

The *Valdai Hills*, in the government of Novgorod and near the sources of the Volga, divide the waters flowing into the Baltic from those entering the Caspian: highest summit, 1100 feet.

Table of Rivers and Towns.—The River-System of Russia belongs to four distinct river-basins—viz., those inclining to the Arctic Ocean, the Baltic, the Black Sea, and the Caspian.

Basins inclined to the Arctic Ocean.

<i>Rivers.</i>	<i>Towns.</i>
Petchora,.....	Ussa.
Dwina,.....	ARCHANGEL.
Suchona, l.....	VOLOGDA.

Basins inclined to the Baltic.

Gulf of Finland and River Neva,	ABO, HELSINGFORS, <i>Sveaborg</i> , REVEL, WIBORG, Cronstadt, ST PETERSBURG.
Narova, l.....	PSKOV, n.
Embach, l.....	Dorpat.
Volkhov, l.....	NOVGOROD.
Svir, l.....	Petrozavodsk.
Düna,	RIGA, VITEBSK.
Treider Aa, l.....	MITTAU.
Niemen,	Memel, Tilsit, KOVNO, GRODNO.
Szeczupa, l.....	SUWALKI.
Vilia,	WILNA.
Vistula,	PLOCK, WARSAW (see under "Austria").

Basins inclined to the Black Sea.

<i>Rivers.</i>	<i>Towns.</i>
Dniester,	Akerman, KISHENAU, n., KAMINIETZ, n.
Sered, <i>l</i>	Tarnopol.
Tiszmanicka,	Drohobicz.
Bug,	Nikolaïev.
Dnieper,	KHERSON, EKATERINOSLAV, KIEV, MOGHILEV, SMOLENSK.
Vorskla, <i>l</i>	POLTAVA.
Desna, <i>l</i>	KIEV, TOHERNIGOV.
Seim, <i>l</i>	KURSK.
Teterev,	JITOMIR.
Guilopiat,	Berditchev.
Pripet,	Pinsk.
Styr,	Brody.
Berezina,	Bobruisk.
Svislotsch,	MINSK.
Viasma,	Viasma.
Alma,	Bakchiserai, n.
Tchernaya,	Sevastopol, <i>Inkermann</i> .
Salghyr,	SIMFEROPOL.
Don,	Nakhitchevan, NOVO-TOHERKASK, n., Staro-Tcherkask.
Manytch, <i>l</i>	Staro-Tcherkask.
Egorlik, <i>l</i>	STAVROPOL, n.
Donetz,	Bielgorod.
Kharkova,	KHARKOV.
Voronetz, <i>l</i>	VORONETZ.
Sosna,	Jeletz.
Kuban,	EKATERINODAR.
Rion,	KUTAIS.

Basins inclined to the Caspian.

Kur,	SHEMAKHA, TEFLIS, Akhaltzikh.
Aras,	Shusha, n., Nakhitchevan, ERIVAN, n., ERZ-ROUM.
Terek,	Kizliar, MOZDOK.
Volga,	ASTRAKHAN, SARATOV, SAMARA, SIMBIRSK, KASAN, NIJNI-NOVGOROD, KOSTROMA, JAROSLAV, TVER.
Kama, <i>l</i>	PERM.
Viatka,	VIATKA.
Sura,	PENZA.
Oka,	NIJNI-NOVGOROD, RIAZAN, Kolomna, KALUGA, OREL.
Kliazma, <i>l</i>	VLADIMIR.
Tzna,	TAMBOV.
Moskva, <i>l</i>	MOSCOW.
Upa,	TULA.
Twertza, <i>l</i>	TVER, Torshok.
Ural,	Uralsk, ORENBURG.

Lakes.—Finland, the Baltic Provinces, and the N.W. of Muscovy, abound in lakes, most of which belong to the basin of the Neva, and discharge their waters into the Gulf of Finland. Ladoga, by far the largest lake in Europe, has an area of 6190 square miles, being nearly as large as the principality of Wales.

Following the order of the river-basins to which they belong, the following are the principal lakes in Russia:—Wygo and Sego, in Olonetz, in the basin of the *Wygo*; Kovdo, Piavo, and Imandra, in the basin of the *Kovdo*; Enara, in N. of Finland, sends its waters by the Patsjoki, into the *Varanger Fiord*; in the basin of the *Neva* are lakes Ladoga, Onega, Salma, Payama, Kuopio, Pielis, Ilmen, Peipus, and many others of smaller dimensions; in the basin of the *Don* is Lake Bolchoi, in the N. of Stavropol, drained by the Manytch; the *Volga* has two small lakes in its basin—viz., Seligher in Tver, and Bielo in Novgorod; in Transcaucasia is Lake Erivan, drained by an affluent of the *Aras*.

Climate.—If two lines be drawn from W. to E. through European Russia—the first from the mouth of the river Tornea, through Archangel, and the second through Riga, Moscow, and Orenburg—they will divide the country into three distinct climatic zones—viz., the cold, the cool, and the mild zone.

The *cold zone*, which is the most northern, has a mean annual temperature of only 18° Fahr.; the soil is constantly frozen to a great depth below the surface, notwithstanding the continual presence of the sun for many weeks' duration; while beyond the arctic circle mercury freezes as early as September. The middle or *cool zone* has an average annual temperature of 36°; the winters are much shorter than in the cold zone, but almost equally severe, while the summers are long and hot; at St Petersburg, in the centre of this zone, the thermometer sinks in January to 22° below zero, but rises in July to 90°. The southern or *mild zone* has an average temperature of 50°; at Warsaw, near its centre, the thermometer in January descends to 22°, and ascends in July to 64°. The annual quantity of rain is very small, being only 16 inches at St Petersburg, and 15 inches over the immense basin of the Volga. In general, the climate is highly favourable to health, diseases being uncommon, and human life frequently attaining to its maximum length.

Products.—Numerous mines of gold, platinum, copper, magnetic iron, sulphur, limestone, gypsum, rock-salt, and precious stones, are worked in the Ural Mountains, giving employment to a great number of miners. Iron abounds in the southern provinces and in Finland, but is not often associated with coal, except in the valley of the Oka. Coal prevails extensively in Poland, in Moscow, and especially in the valley of the Donetz, where the coal-field is 100 miles in length. Lead, arsenic, and nitre are found in Finland; amber in Poland and West Prussia; salt and alum in many places.

Immense natural forests of coniferous and other trees occupy about two-fifths of the surface of the mild and cold zones above described, affording fuel, shelter from the biting winds, and numerous useful articles, to the inhabitants. The largest forest in Europe extends from the Mezen to the Onega, and covers an area greatly larger than the British Isles. The olive and orange refuse to grow in any part of European Russia, except the Crimea, but the vine comes to maturity as far north as lat. 47½°. The extent of land under cultivation bears but a small proportion

to the area of the country; yet such is the fertility of the soil, that much more corn is grown than is required for home consumption. The upper basin of the Volga, where the soil consists of a rich black mould, consisting principally of decayed vegetable matter, may be denominated the granary of the empire; but the Ukraine is also very fertile, and exports enormous quantities of wheat. Nearly all the cereals are cultivated in different parts of the empire, but rye is the principal article of food used by the inhabitants. Hemp, flax, tobacco, and potatoes are extensively cultivated; but rice, silk, cotton, and the sugar-cane are confined to Transcaucasia. The domestic animals of England are found in most parts of Russia, while the wild animals comprise almost all the species known in the other parts of Europe. Goats, the skins of which supply morocco leather, are especially numerous: large flocks of camels are kept by the wandering tribes that inhabit the *steppes*, or deserts, east of the Don; while the reindeer is a source of wealth in the extreme north.

Ethnography.—The people of European Russia, though broken up into a great number of distinct nations, all belong to two great divisions of the human family—the Caucasian and Mongolian.

The first of these divisions is almost exclusively represented by the Slavonians, who embrace nearly nine-tenths of the entire population. The principal subdivisions of the Slavonic race, within the limits of Russia, are the Russians proper, the Poles, the Letts, and the Lithuanians, of which the first mentioned are by far the most numerous and widespread. These occupy the central and most fertile provinces; the Poles are for the most part confined to Poland and West Russia; and the Lithuanians and Letts to the Baltic provinces. The second grand division is represented by the Finns, Samoiedes, Tatars, and Calmucks. Of these the Finns are the most numerous, amounting to upwards of 2,000,000. The Samoiedes are few in number, and are confined to the government of Archangel. The Tatars inhabit the country north of the Black Sea and the river Kuban, and are nearly as numerous as the Finns; while the Calmucks are confined to the lower basins of the Don and Volga. In addition to these there are upwards of a million of Jews in European Russia, and about a third as many Germans.

LANGUAGE.—The languages spoken in European Russia are even more numerous than the races that inhabit it; but, in common with the latter, they are nearly all reducible to two great families—the Indo-European and Finno-Tartarian. The nations of Slavonic blood speak either the Russian, or one or other of its cognate tongues—the Polish, Lithuanian, and Lettish; the Finno-Tartarian family embraces the Finnish, Samoiede, and Georgian of Mount Caucasus; while the Wallachian, spoken in Bessarabia, is a Greco-Latin tongue.

RELIGION.—The Slavonians, and more especially the Russians proper, belong to the Greek branch of the Eastern Church; but the great majority of the Poles are Roman Catholics. A considerable portion of the population of Finland and the Baltic provinces are Protestants of the Lutheran type; the Tatars and Circassians are for the most part Mohammedans; while the Calmucks are generally Buddhists. The emperor is the head of the Greek Church, which in doctrine and rites closely approximates to the Roman Catholic. Though other religions are allowed to be professed, the amount of toleration enjoyed is of the narrowest possible description. Any attempt at propagating opinions at variance with those of the national Church, or of proselytising any of its adherents, is punished with imprisonment, and for the third offence

with exile to Siberia, while the convert is condemned to loss of property, and to detention for life in a convent.

EDUCATION.—Russia is the worst educated country in Europe, there being only 1 out of every 150 of the population at school, while in Germany the proportion is about 1 in 7. The schools are under the surveillance of the priests, and religious instruction constitutes the basis and sum of all school training. Public establishments for the pursuit of science are numerous, and are liberally endowed by the Government—the most celebrated of them being the “Academy of Sciences” at St Petersburg. There are now only six universities—viz., those of Dorpat, Moscow, Kharkov, Kasan, St Petersburg, Kiev—the universities of Wilna and Warsaw having been suppressed by the Government.

Government and Finance.—The form of government is an absolute hereditary monarchy, all power, both in Church and State, being vested in the Emperor, though the influence of the nobility is such that the sovereign cannot, with safety, disregard their wishes.

Hitherto, nearly all the land of the country, as well as the peasantry occupying it, has been their exclusive possession. The nobility alone are allowed to enter the universities, or to hold any office of command, whether civil or military, and are also exempted from most of the taxes. The people have no voice in enacting the laws or in controlling the national expenditure, while a vast proportion of them are bought and sold with the lands which they cultivate. The latter are called *serfs*, and lately numbered 22,000,000; but they are now in the course of being liberated from bondage. Many of the nobility have declared themselves ready to follow the splendid example of the Emperor, who has liberated all the serfs belonging to the crown, amounting to 2,000,000; and the probability is, that ere long Russia will enjoy a representative government and free institutions.

The *Military force* is probably the largest in the world. The regular army amounts to 780,000 soldiers; but including the reserve force and irregular troops, it approaches to 1,000,000 of fighting men. The *Navy*, in 1868, comprised 310 ships of war of all classes, carrying 3749 guns. Previous to the late war it was much greater, many ships of the Black Sea fleet having been sunk by the Russians in the harbour of Sevastopol, to prevent the Anglo-French fleet from entering. The revenue and expenditure amounted to £66,000,000 each, while the public debt, which in 1853 did not exceed £63,000,000, had increased to £203,000,000.

Manufactures and Commerce.—Manufactures have made great progress since the time of Peter the Great; but notwithstanding the high duties levied on foreign goods, Russia is yet far from being a manufacturing country. Russian leather, largely used in book-binding, arms of various kinds, soap, sheeting, cordage, sail-cloth, together with cotton, silk, and woollen fabrics for home consumption, are the principal manufactures.

Most of the articles used by the peasantry are made in the villages, each of which is usually devoted to a single branch of industry. The chief *exports* consist of the articles above enumerated, together with corn, tallow, hides, hemp, flax, linseed, tar, pitch, potash, and building timber; while the principal *imports* are cottons, woollens, earthenware, cutlery, machinery, coal, salt, wine, indigo, dye-stuffs, and articles of colonial produce, most of which are transported by overland route from China. In 1869, the total value of the exports amounted to £35,550,000,

and of the imports to £32,000,000. The commerce of Russia is chiefly internal, and is greatly facilitated by its innumerable navigable rivers and by its vast system of canals, by means of which its four seas are connected together in many directions. A great portion of the internal trade is transacted at annual fairs, the most remarkable of which is that of Nijni-Novgorod. The foreign commerce is also considerable, though no other country can so easily dispense with it, the empire being a world to itself, and requiring almost nothing which the wider world without can supply. Great Britain is Russia's best customer by sea, and China by land, the former consuming more than half of her total exports. The principal seaports are St Petersburg and Riga, on the Baltic; Odessa, on the Black Sea; Astrakhan, on the Caspian; and Archangel, on the White Sea. Railway communication is very limited in proportion to the extent of the empire. In 1870, the number of miles completed was only 7044, the principal lines of railway being those connecting the capital with Nijni-Novgorod and Warsaw; but several other extensive lines are partially executed, so that ere long St Petersburg will be connected with all the principal cities in the European portion of the empire.

SWEDEN AND NORWAY (SCANDINAVIA).

THE kingdoms of Sweden and Norway, now united under one sovereign, embrace between them the entire north-western peninsula of Europe, usually called Scandinavia.

Boundaries.—N., the Arctic Ocean; W., the Atlantic, North Sea, and Cattegat; S., the Skager Rack and the Baltic; E., the Baltic and Finland. Lat. $55^{\circ}22'$ — $71^{\circ}12'N.$; lon. $4^{\circ}50'$ — $31^{\circ}15'E.$

Stockholm, the capital of Sweden, on the east coast of the peninsula (lat. $59^{\circ}20'$, lon. $18^{\circ}8'$), is nearly on the same parallel of latitude as Lerwick, Christiania, St Petersburg, Tobolsk, Mount St Elias (in Russian America), and Cape Farewell in Greenland; and nearly on the same meridian as Spitzbergen, Danzig, Buda, Mostar, Otranto, Gulf of Sidra, and Cape Town. Scandinavia is the largest peninsula in Europe, and, in common with nearly all the others, stretches out in a general southerly direction; extreme length, 1190 miles; greatest breadth, 490 miles. The peninsula is traversed, in the direction of its greatest length, by an immense mountain-range, which, being confined to the side next the ocean, gives Norway a highly Alpine character; while Sweden, or the eastern half, is in general low and level; but, towards the mountains, it rises in a succession of terraces, marked by cataracts in the numerous streams, which generally follow a straight course towards the Baltic, and frequently expand into long narrow lakes. Coasts low and sandy on the eastern side, but deeply indented on the western by rock-bound inlets, called *fjords*, and lined by an innumerable multitude of small islands. Coast-line, without including the inlets, about 3000 miles, or one mile of seaboard to every 97 square miles.

Area and Population.—The area of the entire peninsula is 293,918 square miles, of which 123,297 belong to Norway, which is very little larger than the British Isles; and 170,621 to Sweden, which is nearly half as large again as Norway. In 1868 the united population amounted to 5,898,000; that of Norway being 1,729,000, or about half the population of Scotland; and that of Sweden 4,168,000, or one-fourth larger than the population of the latter country. Scandinavia is thus the most thinly peopled country in Europe, having only 20 persons to each square mile.

Political Divisions.—Sweden is divided into three large provinces or twenty-four *læns*, and Norway into six *stifts* or counties.

SWEDEN, THREE PROVINCES.

Gothland.—Gothenburg, 55 (Götha), Malmö 25, Lund 11 n. (the Sound), Carlsrona 18, Kalmar 9 (the Baltic), Norrköping 22 (Motala), Jönköping 11 (Lake Wetter).

Svealand.—STOCKHOLM 135 (Lake Mælar), Örebro 8, Dannemora (Lake Hielmar), Upsala 11 (Sala), Fahlun 5 n. (Dal).

Norrland.—Hernösand 2 (Angerman), Gefle 12 (Dal), Umea 1, Pitea 1 (Gulf of Bothnia).

NORWAY, SIX STIFTS.

Agershuus.—CHRISTIANIA 66, Frederickshald 7 (Gulf of Christiania), Drammen 13 (Drammen), Fredericksstadt 3 (Glommen).

Christiansand.—Christiansand 10 (Torrisdals), Stavanger 18 (Bukke Fiord).

Bergen.—Bergen 30 (Kors Fiord).

Trondhjem.—Trondhjem or Drontheim 21 (Trondhjem Fiord), Roraas 4 (Glommen).

Nordland.—Alstahoug 1 (Island Alsten).

Finnmarken.—Hammerfest 1 (Whale Island), Altengaard 2 (Alten).

Descriptive Notes.—In the entire peninsula there is only one town (Stockholm) of more than 100,000 inhabitants; two bet. 100,000 and 50,000 (Christiania, Gothenburg); four bet. 50,000 and 20,000 (Bergen, Malmö, Norrköping, Trondhjem); and nine bet. 20,000 and 10,000.

SWEDEN.—*Gothenburg*, the second city in Sweden both as regards population and commerce, has shipbuilding docks, numerous manufactures, and a large export trade in herrings, iron, steel, copper, and timber. *Malmö*, a strongly fortified manufacturing town on the Sound. *Lund*, a very ancient town, where the kings of Scania were elected in the middle ages, is the seat of a university. *Carlsrona*, by far the best naval station in Scandinavia, has a large export trade in metals, potash, and other Baltic produce. *Kalmar*, famous for the treaty, in 1397, which united the kingdoms of Denmark, Norway, and Sweden. *Norrköping*, a thriving manufacturing town, noted for its broadcloth. *Linköping*, an ancient town, near which was fought, in 1596, the battle of Stangebro, in which Sigismund was defeated by his uncle Charles IX. *Stockholm*, the capital of Sweden since the seventeenth century, and the chief commercial emporium of Scandinavia, is built partly on the mainland, and partly on a number of islands on the strait connecting Lake Mælar with the Baltic; the houses are chiefly of brick or painted wood, the streets unpaved, narrow, crooked, and dirty, but the palace and some of the public buildings are very fine. It has numerous learned societies, the most celebrated of which is the Academy of Sciences. *Upsala*, the former capital of Sweden, with a far-famed university, in which Linnæus, Celsius, Bergmann, Scheele, and Berzelius, were professors. *Dannemora*, the site of the largest and most valuable iron mines in the world. *Fahlun*, with a great copper mine, which has been wrought for upwards of 1000 years. *Gefle*, one of the principal towns in Sweden as regards shipping and commerce.

NORWAY.—CHRISTIANIA, capital of the kingdom of Norway, finely situated at the head of a long narrow *fiord* on the south-east coast, is a small city possessed of no architectural beauty, but the streets are straight, broad, and well paved, and the environs are exceedingly picturesque. It contains a university, a royal palace, the national arsenal, and various educational and scientific establishments. *Frederickshald*, noted for its strong fortress, in besieging which, in 1718, Charles XII. of Sweden was killed. *Christiansand*, a trading seaport town, with shipbuilding docks. *Bergen*, the commercial capital of Norway, and its most important fishing-station, is well fortified, and is a station for a naval squadron: notwithstanding its high latitude, the harbour is seldom frozen. *Trondhjem*, the ancient capital of Norway, and the place where its sovereigns are still crowned, carries on an active trade in deals, dried fish, tar, and copper. *Roraas*, noted for

its extensive copper mines. *Hammerfest*, the most northern town in Europe (lat. $70^{\circ} 40'$), enjoys the light of the sun in summer for two months without interruption. *Ålengaard*, noted for its raised beaches, which conclusively show that in the course of ages the surrounding country has attained a greatly higher elevation than formerly.

Capes and Islands.—Cape Nordkyn, the most northern point of the continent of Europe (lat. $71^{\circ} 5'$); North Cape, on the island Magerøe; Statland, S.W. of province Trondhjem; the Naze, the most southern point of Norway. *Islands*: Magerøe and Sorøe groups, N.W. of Finmarken; Tromsøe and Lofoden groups, N.W. of Nordland; Vigten, Frøyen, Hitteren, and Smölen, off the coast of Trondhjem; Öland and Gothland, S.E. of Sweden.

Gulfs and Straits.—Varanger Fiord and Porsanger Fiord, N. of Finmarken; West Fiord, between Nordland and the Lofoden Isles; Trondhjem Fiord and Romsdal Fiord, W. of Trondhjem; Sogne Fiord and Hardanger Fiord, W. of Bergen; Bukke Fiord, W. of Christiansand; Skager Rack, between Norway and Denmark; the Cattegat and Sound, between Sweden and Denmark; Kalmar Sound, between Sweden and Öland; Gulf of Bothnia, between Sweden and Finland.

Mountain System.—An immense mountain-range, known as the Scandinavian or Norwegian Alps, traverses the western side of the peninsula, from the Naze to the North Cape, the southern half of it being confined to Norway, and the northern forming, for the most part, the boundary between Norway and Sweden. Its total length is about 1150 miles, with a breadth varying from 200 miles in the south to 60 in the north. The range consists of a series of plateaux or elevated table-lands, separated here and there by deep narrow valleys, and is very rich in minerals. It is usually divided into three sections—viz.:

Hardanger Field, in the south of Norway, separating the waters that enter the Skager Rack from those that flow westward to the Atlantic: highest summit, Skageslöstinden, the culminating point of Scandinavia, 8670 feet (lat. $61^{\circ} 18'$). Height of snow-line in this chain, 5000 feet.

Dovre Field, between Agershuus and Trondhjem, separating the basins of the Glommen and Gotha from the Atlantic: highest summit, Snaehäppen, 7620 feet (lat. $62^{\circ} 11'$).

Kiölen Mountains, between Norway and Sweden, forming the watershed between the Baltic and the Atlantic: highest summit, Sulitelma, 6200 feet (lat. $67^{\circ} 4'$). Height of snow-line on Sulitelma, 3500 feet. The total extent of country elevated above the snow-line is said to exceed 3500 square miles. Glaciers are numerous, and though less known than those of Switzerland, they are often of greater extent, and discharge a much greater quantity of water. One, near Ålengaard, is remarkable as descending to the level of the sea, into which it projects some of its members.

Lakes.—Lakes are extremely numerous, about an eighth of the total area of Sweden being covered with them.

Lake Wener, between Gothland and Sweden Proper (area, 2120 square miles), is by far the largest, while almost all the lakes of any magnitude are on the eastern side of the great mountain-chain—as Mjösen, in Agershuus, in the basin of the Glommen; Wener and Foemund, in the

basin of the Gotha; Wetter, drained by the Motala; Mælar and Hielmar, by the Mælar; Siljan, by the Dal; Stor-Uman, by the Umea; Stor-Avan, by the Skeleftea; Stor-Lulea, by the Lulea; and Tornea, by a river of the same name.

Table of Rivers and Towns.—All the important rivers of the peninsula take their rise on the eastern slope of the great mountain-chain, and pursue a S.E. course to the Skager Rack and Cattegat (branches of the North Sea), or to the Baltic. The western slope is traversed by numerous mountain torrents, and by deeply penetrating *fjords*.

Basins inclined to the Atlantic and North Sea.

<i>Rivers.</i>	<i>Towns.</i>
Alten,	HAMMERFEST, <i>Altengaard</i> .
Wessen,	ALSTAHOUG.
Trondhjem Fiord,	TRONDHJEM.
Kors Fiord,	BERGEN.
Torisdals,	CHRISTIANSAND.
G. of Christiania,	<i>Frederickshald</i> , CHRISTIANIA.
Drammen,	Drammen.
Glommen,	<i>Frederickstadt</i> .
Götha,	GOTHENBURG.
Clara,	Carlstad.
The Sound,	Lund, n., Malmöe.

Basins inclined to the Baltic.

Motala,	Norrköping, <i>Linköping</i> , <i>Jönköping</i> .
L. Mælar,	STOCKHOLM.
Sala, l.	<i>Upsala</i> , <i>Dannemora</i> .
Hielmar,	<i>Orebro</i> .
Dal,	<i>Gefle</i> , <i>Fahlun</i> .
Angermann,	HERNÖSAND.
Umea,	<i>Umea</i> .
Pitea,	<i>Pitea</i> .

Climate.—The climate of Scandinavia is remarkably mild, especially on the western slope of the mountains, where the fall of rain usually amounts to from 70 to 80 inches.

The snow-line is much higher and the cereals extend greatly farther north than in Siberia, where the cultivation of grain ceases at lat. 60°, while in Norway it extends to lat. 70°. In the interior of Sweden the summers are very hot, and the winters extremely cold; snow covers the ground for nearly six months in the year, and mercury often freezes north of lat. 61°. Owing to the length of the day and the great heat, barley may be sown and reaped at Hammerfest within the space of six weeks.

Products.—The iron mines of Sweden are the most famous in the world, and yield on an average 70,000 tons annually. Copper is also abundant, and silver and cobalt are found in various places.

The mountains of Norway are rich in minerals, especially iron, copper, silver, cobalt, and chrome; but from the difficulty of transport and the scarcity of fuel, mining industry is but little developed. A fourth part of the entire surface of Sweden is covered with forests, the principal trees being pine, fir, birch, lime, elm, alder, and willow, the timber of

which is extensively employed as fuel, and for the production of charcoal required in working the mines. Pine forests extend, in both countries, north of the polar circle, and those of birch to lat. 70°. Barley is the principal crop in all parts of the peninsula, but not more than one-fifth of the surface is under cultivation. The horses and cattle are of small size; and north of lat. 64° the reindeer and dog, both of which are employed as beasts of draught, are the only domestic animals. The principal wild quadrupeds are the brown bear, wolf, lynx, fox, glutton, lemming, deer, elk, marten, hare, sable, beaver, and squirrel. The seas, lakes, and rivers swarm with the greatest abundance of fish, and fishing forms in Norway the most important branch of industry.

Ethnography.—The people are all of the Gothic stock, with the exception of the Finns and Lapps, who belong to the Mongolian race.

The Swedes, Norwegians, and Danes originally spoke the same language—viz., the Icelandic; and though the Swedish and Norwegian are now dialectically different, they are still very closely allied, both in their roots and inflections. Nearly the whole Gothic portion of the population are Protestants, Scandinavia being the most Protestant country in Europe. Lutheranism is the State religion in both countries, but other sects are tolerated. Nearly all the young are in regular attendance at school, and scarcely can a peasant be found who cannot read and write. The literature and science of both countries are adorned by many names of more than European reputation, especially the department of physical science, in which the Swedes have long distinguished themselves. Linnæus, Fries, Wahlenberg, Scheele, Bergmann, and Berzelius, were all Swedes. The universities are three in number—viz., those of Christiania, Upsala, and Lund.

Government and Finance.—Since the year 1814, Norway and Sweden have been united under one sovereign, though each country retains its own laws and legislative assemblies.

The monarch resides in Sweden the greater part of the year, but is bound to visit Norway annually. The army amounts to 160,000 men, and the combined fleet to 108 vessels of all descriptions, carrying upwards of 585 guns. The united annual receipts and expenditure average, respectively, £3,000,000, while the combined public debt amounts to £6,500,000.

Manufactures and Commerce.—There are few manufactures in Norway, while those of Sweden consist, for the most part, of articles of home consumption. Timber, tar, and iron are largely exported.

Swedish iron, owing to its magnetic character, and its being smelted with wood-charcoal instead of coal, as with us, is reckoned the finest in the world. Distilling and brewing are extensively prosecuted; saw-mills, forges, and metal-foundries are numerous, while tanning and ship-building form important branches of industry. Owing to the configuration of the country, many of the people live near the coast, have acquired nautical habits, and readily engage in foreign commerce, which is chiefly carried on with Russia, Denmark, Great Britain, Germany, the Mediterranean, and the E. coast of S. America. Internal commerce is much restricted in Norway by the character of the surface, which in most places prevents the construction of canals, railways, and even good roads; but in Sweden the facilities of transit are greatly more numerous: here canals are numerous; the main roads leading from the capital are excellent; and of late railway communication is progressing. In 1870 there were 1175 miles of railway open in the peninsula, of which only 354 miles belonged to Norway.

A S I A.

Boundaries.—N., the Arctic Ocean; W., the Ural Mountains, Ural River, Caspian Sea, Mount Caucasus, Black Sea, Sea of Marmora, Mediterranean Sea, Isthmus of Suez, and Red Sea; S., the Indian Ocean and Chinese Sea; and E., the Pacific Ocean.

Continental Asia extends from Cape Romania, lat. $1^{\circ} 22'$, to Cape Severo, lat. $78^{\circ} 25' N.$; and from Cape Baba, in Asia Minor, lon. $26^{\circ} 4' E.$, to Behring Strait, $170^{\circ} W.$ It thus embraces 77° of lat. and 164° of lon. Kara Manna Nor, a small lake in southern Mongolia, about $8\frac{1}{2}^{\circ} W.$ of Pekin, is the geographical centre of this immense area. The coast-line is variously estimated from 30,000 to 35,000 miles. The former gives one mile of coast to every 550 miles of surface; while Europe has one mile for each 220 square miles.

Area and Population.—The area of Asia, exclusive of the Malay Archipelago, is estimated at 16,626,000 square miles—or one-third of the land surface of the globe. It is more than four times the area of Europe, and larger than Europe and Africa put together, or even than North and South America. The extreme length, from Behring Strait to Strait of Bab-el-Mandeb, is 6700 miles; and the breadth, from Cape Severo in Siberia to Cape Romania in Malacca, 5400 miles. The population is very variously estimated, there being no accurate census of most Asiatic countries; but the sum of the populations of the different countries, as given in the annexed table, is 784,728,000, or about three-fifths of the population of the globe. Yet it is far less densely peopled than Europe, having only forty persons to each square mile.

Political Divisions.—The actual number of independent states cannot be given with any degree of accuracy. Several of the countries enumerated in the following table contain, individually, a number of small states not acknowledging allegiance to any other power.

TABLE OF ASIATIC STATES AND COUNTRIES.

NAME.	Area in Eng. Square Miles.	Population according to latest authorities.	Capital.	River, &c., on which the Capital stands.
Asiatic Turkey	671,897	16,050,000	Smyrna.	Ægean Sea.
Arabia . . .	1,220,000	5,000,000	Mecca, &c.	n. Red Sea.
Persia . . .	562,500	5,000,000	Teheran.	S. of Mt. Elburz.
Afghanistan .	258,000	4,120,000	Kabul.	Kabul.
Biluchistan .	166,000	2,000,000	Kelat.	Gundava.
Hindustan .	1,473,687	191,629,373	Calcutta, &c.	Hughli.
Further India	889,106	24,645,000	Mandelay, &c.	Irawadi.
Chinese Emp.	4,423,000	474,500,000	Pekin.	Pei-ho.
Turkestan E. & W. . . .	853,000	10,870,000	Bokhara, &c.	Zerafchan.
Siberia . . .	5,585,964	5,500,000	Tobolsk.	Irtish.
Japan . . .	152,500	35,000,000	Yeddo.	E. Co. of Nippon.
Total . .	16,626,160	784,728,500		

Surface.—Nearly the whole of Siberia and Western Turkestan consists of one vast continuous lowland plain, of nearly twice the size of Europe, and only partially separated from the great European plain by the Ural Mountains. Only its southern portion is capable of cultivation. In the vicinity of the Arctic Ocean it forms a succession of desert tracts called *Tundras*, which in summer are covered with moss, and inter-

spersed with lakes and marshes, and in winter are buried under a solid covering of ice. More than a half of the surface of Asia is occupied with an immense elevated plateau or table-land, extending without interruption for about 5500 miles, from the Mediterranean and Red Seas in the W. to the coast of Corea in the E., with a breadth varying from 2000 to 700 miles.

Peninsulas and Isthmuses.—The principal peninsulas are the following: Anatolia, or Asia Minor, between the Black Sea and the Mediterranean; Arabia, between the Red Sea and the Persian Gulf; Hindustan, between the Arabian Sea and the Bay of Bengal; Further India, or the Eastern Peninsula, between the Bay of Bengal and the Chinese Sea; Malacca, a southern prolongation of Further India; Corea, between the Yellow Sea and the Sea of Japan; Kamtschatka, between the Seas of Okhotsk and Kamtschatka. Nearly all the Asiatic peninsulas stretch southward—the only exception being Asia Minor. The Isthmus of Suez connects Asia with Africa, and the Isthmus of Kraw, Siam with Malacca.

Capes.—Baba, W. of Asia Minor; Ras-al-Had, S.E. of Arabia; Comorin, S. of Hindustan; Dundra Head, S. of Ceylon; Negrals, S.W. of Pegu; Romania, S. of Malacca; Cambodia, S. of Anam; Chichakof, S. of Japan; King, E. of Japan; Patience, E. of Saghalien; Lopatka, S. of Kamtschatka; East Cape, the most eastern point of Siberia; Severo, or North-East Cape, N. of Siberia.

Islands.—Rhodes, Samos, Scio, Mitylene or Lesbos, in the Ægean Sea; Cyprus, in the Levant; Socotra, S. of Arabia; Ceylon, S. of Hindustan; Hainan, S. of China; Formosa, E. of China; Japan Isles, E. of Chinese Tartary; Saghalien, a semi-peninsula, N.E. of Chinese Tartary; Kurile Islands, between Japan and Kamtschatka; New Siberia, in the Arctic Ocean. For the islands of Malaysia (Sumatra, Java, Borneo, Philippine Isles, &c.), see under "Oceania."

Seas, Gulfs, and Straits.—Black Sea, N. of Asia Minor; Sea of Marmora, between Asiatic and European Turkey; Ægean Sea, or Archipelago, W. of Asia Minor; Levant, W. of Syria; Red Sea, Strait of Babel-Mandeb, and Gulf of Aden, between Arabia and Africa; Arabian Sea, between Arabia and Hindustan; Persian Gulf and Gulf of Oman, between Arabia and Persia; Gulf of Manar and Palk Strait, between Hindustan and Ceylon; Bay of Bengal, between Hindustan and Further India; Gulf of Martaban, between Pegu and Tenasserim; Strait of Malacca, between Malaya and Sumatra; Gulf of Siam, S. of Siam; Chinese Sea, between China and the Philippine Isles; Gulf of Tonquin, between Tonquin and the island of Hainan; Yellow Sea, between China and Corea; Strait of Corea, between Corea and Japan; Sea of Japan, between Japan and Chinese Tartary; Sea of Okhotsk, between Okhotsk and Kamtschatka; Sea of Kamtschatka and Behring Strait, between Siberia and Russian America; Gulfs of Obi and Kara, N.W. of Siberia.

Mountain Systems.—The Bolor Tagh Mountains, running N. and S. between Eastern and Western Turkestan and midway between Spain and Kamtschatka, is the grand centre from which all the great mountain-ranges of Asia and Europe diverge. This great primary chain stands on the lofty plateau of Pamir, between the sources of the Amoo and the Yarkand, and attains an elevation of 19,000 feet. The following are the principal chains that radiate from it in all directions:—

THE WESTERN SYSTEM forms the northern boundary of the table-lands of Western Asia, and is then prolonged through European Turkey, till it reaches the Alps, Cevennes, and Pyrenees, terminating at the shores of the Atlantic. Th

Asiatic portion separates the waters flowing into the Indian Ocean from those that discharge themselves into the Black Sea, Caspian, and Sea of Aral. Its principal members are the following: 1. The *Hindu Kush*, separating the Panjab and Afghanistan from Independent Tartary, and the basin of the Indus from that of the Amoo; maximum elevation, about 20,000 feet. 2. The *Paropamisada Range*, in N.E. of Persia, separating Turkestan from the plateau of Iran (Koh-i-baba, 16,000 feet). 3. The *Elburs Range*, S. of the Caspian; highest summit, Mount Demavend, 21,500 feet; and *Zagros*, or *Mountains of Kurdistan*, 12,000 feet, separate the basins of the Euphrates and Caspian: height of snow-line on the Elburs, 11,000 feet. 4. *Mountains of Armenia*, between the basins of the Caspian and Black Sea: highest summit, Mount Ararat, 17,112 feet. 5. *Taurus* and *Anti-Taurus*, enclosing the table-land of Asia Minor, separate the basin of the Euphrates from that of the Black Sea; highest summit, Argish Dag, 13,197 feet. 6. The *Lebanon Range* (12,000 feet), proceeding from Mount Taurus southward along the Syrian coast to Mount Hermon in the north of Palestine (9376 feet), and thence continued through Palestine into the peninsula of Sinai. 7. *Mount Caucasus*, proceeding in a north-western direction from the centre of the Western System, and separated from the Mountains of Armenia by the valley of the Kur. (See under "Russia.")

THE SOUTH-EASTERN SYSTEM extends from the southern extremity of the Bolor Tagh to the Chinese Sea, and forms the southern wall of the lofty plateau of High Asia. It contains the loftiest elevations on the earth's surface, and consists mainly of the following chains: 1. The *Himalaya* ("abode of snow"), between Hindustan and Tibet, and separating the basin of the Ganges from the upper basin of the Brahmaputra. The three loftiest peaks are Mount Everest or Gaurisankar, 29,002 feet above the level of the sea (the culminating point of Asia, and the highest summit on the earth's surface), between Nepal and Tibet, lon. 86° E.; Kunchinjunga, in Sikhim, 28,150 feet; and Dhawalagiri, in Nepal, 28,080 feet. Several other peaks in this range rise to an elevation of 25,000 feet, and not fewer than forty attain a height of 20,000 feet. The chain is 1500 miles long, and from 100 to 350 miles broad: height of snow-line on the south side, 16,200 feet; on the north side, 17,400 feet; highest elevation at which wheat grows, 18,000 feet. 2. The *Karakorum Mountains*, in Tibet, midway between the Himalaya and Kuen-Lun, and nearly as lofty as the former (Dapsang Peak, 28,278 feet). 3. The *Mountains of Arakan*, between the Irawadi and Bay of Bengal, 5600 feet. 4. The *Mountains of Siam, Cambodia, and Anam*, in Further India (Tidi-bang-sa, in Malay Peninsula, 6561 feet).

THE EASTERN SYSTEM, extending from the Bolor Tagh due east to the Pacific Ocean, and consisting of two main sections: 1. The *Kuen-Lun Mountains*, between Tibet and Chinese Turkestan, and between the basins of the Yarkand and Yang-tse-kiang, 22,000 feet. 2. The *Pe Ling*, in China, between the Yang-tse-kiang and Hoang-Ho. Several counterforts set out from the Pe Ling—viz., the Yun-ling, 12,000 feet, between China and Tibet; the Nan-ling, 8000 feet, between the basins of the Yang-tse-kiang and Canton river; the Kihai-Shan, in Shan, and Khin-gan Mountains, forming the S.E. wall of the desert of Shamo.

THE NORTH-EASTERN SYSTEM, extending E.N.E. from the Bolor Tagh to Behring Strait, and forming the northern wall of High Asia. It embraces—1. *Thian Shan*, in Chinese Turkestan, separating the basins of the Sir Daria and Ili from that of the Yarkand, 21,000 feet. 2. The *Altai, Sayansk, and Yablonoi Mountains*, in the south of Siberia, separating the basin of the Amour from those of the Yenisei and Lena; Mount Katunak, in the Altai, 12,790 feet. 3. *Stanovoi and Aldan Mountains*, in Eastern Siberia, between the Arctic Ocean and Sea of Okhotsk.

River Basins and Capitals.—The River-Systems of Asia surpass in number those of any other continent, though none of them attains the dimensions of the Amazon or Missouri. This is owing to the different disposition of the mountain-chains, which in America are placed on one side of the continent, whereas the principal chains and table-lands of Asia traverse its central regions, and send the rivers in five different directions, corresponding to the five great basins to which they respectively belong—viz., the Black Sea and Mediterranean, the Indian Ocean, the Pacific Ocean, the Arctic Ocean, and the basin of continental streams. For explanation of the following table, see p. 26.

RIVER BASINS.	Direct Length in Miles.	Area in Geographical Sq. Miles.	Capitals of States and Provinces.
<i>Basins inclined to the Black Sea and Mediterranean.</i>			
Kizil Irmak, . .	400	28,160	Sivas (Room).
Sihoon, . . .	100	..	Adana (Itshil).
Jyhoon, . . .	100	..	Marash.
Orontes, . . .	200	..	(Antaki, anc. Antioch.)
<i>Basins inclined to the Indian Ocean.</i>			
Euphrates, . .	850	195,680	Erzeroum, Aleppo, Shuster (Khuzistan), Kermanshah (Persian Kourdistan), Khorumabad (Luristan), Baghdad, Mosul (Turkish Kourdistan), Diyarbekr, Van.
Indus, . . .	950	312,000	HAIDARABAD (Sindh), Iskardo (Bultistan), Leh (Ladakh), BHAWALPUR, LAHUR (Panjab), KASHMIR, KABUL (Afghanistan).
Luni, . . .	300	..	Jodhpur, Ajmir.
Mah, . . .	200	..	BABODA (Gujerat).
Nerbudda and Tapti, . . }	560	78,000	Baroche, Surat.
Kaveri, . . .	320	..	MAISUR.
Krishna, . . .	500	81,600	Kolapur, HAIDARABAD.
Godavari, . .	550	92,600	NAGPUR.
Mahanadi, . .	380	..	Katak, Sambhalpur.
Ganges, . . .	1000	432,000	CALCUTTA (Bengal), Patna (Behar), Benares, Allahabad, Sikhim, KHATMANDU (Nepal), Lukhnow (Oudh), Rewah, AGRA (N.W. Provinces), Bhurtpur, Delhi, Sagar, Jhansi, Bhopal, GWALIOR, Dholpur, Bandi, Kotah, Dhar, Jaypur, Udiapur (Mewar), Dewas, Ujjain, Indur, Mirat, Bareilly (Rohilkhand), Almora (Kumaon).
Brahmaputra, .	700	330,000	LASSA (Tibet), Kush-Bihar, TASISUDOM (Bhotan).
Irawady and Saluen, }	800	331,000	{ MANDELAY (Burma), Pegu, Munipur; Mulmein (Tenasserim Province.)
<i>Basins inclined to the Pacific Ocean.</i>			
Meinam and Me-kong, . }	1250	216,000	BANKOK (Siam); Saigon (Cambodia).
Choo-kiang, . .	580	99,200	Canton (Quang-tung), Kwei-lin (Kwang-se).
Yang-tse-kiang, .	1800	800,000	Nankin (Kiang-soo), Ngan-king (Gan-hway), Woo-chang (Hoo-pih), Nan-chang (Kiang-se), Chang-aha (Hoo-nan), Kwei-yang (Kwi-chow), Ching-too (Se-chuen), Yun-nan.
Hoang-Ho, . .	1150	537,400	Kai-fong (Ho-nan), Lan-chow (Kan-su), Se-gan (Shen-se), Tse-yuen (Shan-se).
Amour, . . .	1250	582,880	Kirin Ula (Mantchooria).
Anadir, . . .	350	63,360	(Anadirsk, in the Tchoukchee country).

RIVER BASINS.	Direct Length in Miles.	Area in Geographical Sq. Miles.	Capitals of States and Provinces.
<i>Basins inclined to the Arctic Ocean.</i>			
Kolyma, . . .	500	107,200	(<i>Nijni Kolimsk</i> , in Yakutsk.)
Indigirki, . . .	600	86,400	(<i>Zachiverak</i> , in Yakutsk.)
Lena, . . .	1800	594,400	Yakutsk.
Olonek, . . .	600	76,800	(<i>Olenek</i> , a village in Yakutsk.)
Yenisei, . . .	1950	784,590	Krasnoïarsk (Yeniseisk), Irkutsk, Ourga (Mongolia).
Obi, . . .	1800	924,800	Tobolsk, Tomsk, Semipolatsinsk.
<i>Basin of Continental streams.</i>			
Kur, . . .	520	64,640	Teflis.
Volga, . . .	900	397,460	(See under "Europe," p. 23.)
Ural, . . .	550	83,200	Orenburg.
Amoo, . . .	880	193,600	Khiva, Meshed (Khorassan), Herat, Bokhara, Kunduz.
Syr Daria, . . .	720	237,920	Kokan.
Yarkand, . . .	880	177,120	KASHGAR (E. Turkestan).
Helmund, . . .	420	76,380	Candahar.

Lakes.—The lakes of Asia are very numerous, especially in Asia Minor, Independent Tartary, and the great Central Basin. To Asia belong the greatest lake in the world (the Caspian), and the largest fresh-water lake in the Old World (Lake Baikal). Beginning at the N. E. of Asiatic Turkey, and following, as usual, the order of the river-basins in which they occur, the following are the principal lakes:—

Kizil Irmak Basin: Tuz-Gul, a large salt-water lake in the centre of Asia Minor, the saltiest lake known. *Jordan Basin:* Sea of Galilee; Dead Sea, intensely salt, 1312 feet below the level of the Mediterranean. *Euphrates:* Lake Van, in Turkish Armenia, salt; no visible outlet. *Indus:* Munchur, in Sindh; Wullur, in Kashmir; Rowand and Mansarowar, at the source of the Satlej. *Brahmaputra:* Paltee, in Tibet. *Yang-tee-kiang:* Poyang and Tong-Ting, in China Proper. *Hoang-Ho:* Ko-ko-Nor, N.W. of China Proper. *Yenisei:* Baikal, in S. of Eastern Siberia, drained by the Angara. *Obi:* Zaisan, in Dzungaria, drained by the Irtysh. *Basin of Continental Streams:* The Caspian, area 140,000 square miles, the largest lake in the world, 84 feet below the level of the Black Sea; Lake Urumiah, W. of the Caspian, very salt; Sea of Aral, 152 miles E. of the Caspian, which it exceeds in elevation by 117 feet, receives the Amoo (from Lake Sir-i-Kol, the highest lake known), and the Sir Daria; Lake Balkash, 150 miles long and 75 broad, in S. of W. Siberia; Temortou or Issyk-Kul, 200 miles S. of Lake Balkash; Lop Nor, in Eastern Turkestan; Tengri Nor, in Tibet; and Zurrah or Hamoon, in Afghanistan.

Climate.—Extending from the immediate vicinity of the equator to far within the arctic circle, Asia exhibits every variety of climate, from the intense heat of the torrid zone to the extreme and long-continued cold of the circum-polar regions. Three climatal zones, however, are easily distinguishable. The most northern of these, which includes the great Siberian plain, is characterised by extreme cold for nine months in the year, then giving place to a brief period of excessive heat. (See under "Siberia.") The Middle Zone, which embraces the high table-lands of the interior, is cold and dry, and subject to the influence of piercing winds from the north: here large tracts are seldom visited by

rain, especially the great desert of Gobi or Shamo, a large portion of Biluchistan, Persia, Northern Arabia, and Southern Syria, in some of which a drop of rain is never known to fall, and in others only at long intervals and in very small quantities. The Southern Zone, comprising all the countries south of the table-lands, is characterised by intense summer heat, extreme moisture, and no real winter: here the rain falls with extreme violence at particular seasons of the year; at Calcutta no less than 64 inches fall annually; and at Bombay, 16 inches of rain have been known to fall in a single day.

Minerals.—Asia has in all ages been celebrated for the number and variety of its mineral productions. *Diamonds* and other precious stones abound in India, Burma, the Ural and Altai Mountains; *Coal*, in Syria, Burma, Hindustan, China, and Japan; *Salt*, in Asia Minor, Arabia, Hindustan, China, Siberia, and Central Asia; *Petroleum*, on the shores of the Caspian; *Bitumen*, in the Dead Sea; *Nitre*, in India; *Sulphur*, in Ladakh; *Gold*, *Iron*, *Copper*, and *Platinum*, in the Urals; *Gold*, *Silver*, *Iron*, *Lead*, in the Altai; *Mercury*, in China, Tibet, and Japan; *Tin*, in the Eastern Peninsula and Japan; *Volcanic products*, in the Taurus range and in Japan.

Botany.—The vegetable products vary exceedingly in the different countries, according to latitude, elevation, and other climatal influences. The entire continent embraces no fewer than eight of the twenty-five *botanic regions* into which Prof. Schouw divides the vegetation of the globe—viz., the 1st, 2d, 3d, 6th, 7th, 8th, 12th, and 13th of his system. (See 'Manual of Modern Geography,' p. 55). The characteristic vegetation of the first three regions is given at length under "Europe," while that of the others will be found under the different countries of Asia.

Zoology.—The Asiatic continent contains no fewer than 632 mammals, or considerably more than a third of the total number of existing species. It is divided into four zoological provinces—the Northern, Central, Southern, and Transition. The Northern province, or Arctic Asia, extends from the Arctic Ocean to the Altai Mountains, and from the Urals to the Pacific Ocean. The Central province extends from the Altai to the Himalaya and Hindu Kush Mountains, and from the Caspian Sea to Japan. The Southern province, or Tropical Asia, comprises all the remaining countries of Asia lying east of the table-land of Iran; while the Transition province embraces western Asia south of the Caucasus, the Caspian Sea, and the Paropamisian Mountains. The fauna of the last-named region is peculiar, and forms a connecting link between the three zoological kingdoms of Europe, Asia, and Africa. The fauna of the Northern province resembles that of northern Europe; while in the Central and Southern provinces are found the elephant, rhinoceros, Bengal tiger, and many other formidable animals, together with the camel, auroch, yak, musk-deer, argal, and Tibet goat. It is probable that all the domestic animals of Europe, with the exception, perhaps, of the sheep, have been originally derived from these two provinces. Asia has comparatively a less variety of birds and reptiles than of quadrupeds, there being only 646 species of the former, and 237 of the latter. The cassowary, bustard, pheasant, domestic fowl, and a number of other gallinaceous birds, are abundant; while, among reptiles, the Indian python, the cobra de capella, and the crocodile, or gaval of the Ganges, are formidable in the extreme.

Ethnography.—Leaving out of view the Malay peninsula, which

more properly belongs to Oceania, the entire Asiatic continent is peopled by two great races of the human family—the Mongolian and the Caucasian.

MONGOLIAN RACE.—Asia is peculiarly the home of the Mongol race, and Mongol nations occupy by far the greater portion of its surface. The river Brahmaputra, the Himalayan, Hindu Kush, and Paropamisian ranges of mountains, together with the Caspian Sea, form the great natural barriers that separate this race from the Caucasian. Mongol nations thus occupy the whole of Northern, Central, and Eastern Asia, together with a part of Asia Minor, the inhabitants of which form a connecting link between the Mongolian and Caucasian races. The languages spoken by the Mongol nations all belong to two great classes—the monosyllabic and the Finno-Tartarian. The former is confined to the south-eastern angle of the Continent, and is spoken in China, Further India, Bhotan, and Tibet. These languages, besides being monosyllabic, are wholly destitute of inflection; their alphabets are generally symbolic or ideographic (not phonetic); they are inartificial in their structure, and very limited in the range of their literature. The *Finno-Tartarian* family of tongues, though not altogether peculiar to Mongol nations, occupies the entire remainder of the Mongolian area—viz., Northern and Central Asia—and extends westward into Northern and even Central Europe. Its principal branches are the Turkish, Mongolian, and Tungustian, of Central Asia; the Japanese, Lu-Chuan, and Korean, of Eastern Asia; the Georgian and other languages of the region of the Caucasus; the Samoiede and Finnish, of the north part of both continents; and the Magyar or Hungarian, of Central Europe. All these languages are more or less inflexional and polysyllabic, possess phonetic alphabets, are more refined than the monosyllabic group, while one of them—the Turkish—contains a highly respectable literature. Modern research has established an undoubted affinity between the monosyllabic and Finno-Tartarian families. The religious aspirations of the entire Mongol family have always been obtuse and of a very low order. Shamanism, or demon-worship, and polytheism, at one time widely prevailed; but the nations speaking monosyllabic tongues have now for the most part adopted Buddhism, while the Turanian nations have become Mohammedans.

CAUCASIANS occupy the remainder of Asia—the Hindus, Medo-Persians, and Syro-Arabians forming the three primary divisions of the race in Asia. The *Hindus* and *Medo-Persians* appear to have been originally one people, to have spoken the same language, and to have occupied, in common, the plateau of Iran; but at a time anterior to the dawn of history, the Hindus migrated eastward and settled in the plains of Hindustan, from which they expelled the aboriginal inhabitants, who were probably of Mongolian origin. Their language was the Sanscrit—a tongue of unparalleled copiousness and refinement; and, though it is now a dead language, all the tongues presently spoken in Northern India are immediately derived from it. Brahminism and Buddhism—those two master forms of false religion—originated with this people, and continue to be professed by more than a half of the human race. The *Medo-Persian* group of nations occupies about a tenth part of the surface of Asia, embracing Persia, Biluchistan, Afghanistan, and the greater part of Turkestan and Armenia. The origin of these nations has never been accurately ascertained. Their very existence had been scarcely known beyond the elevated plateau which, from time immemorial, they appear to have occupied, when all at once they advanced from obscurity to empire. Emerging from their mountainous abodes, they captured Babylon the Great, and founded an empire which, in point of extent, exceeded even that of Rome. Their physical conformation, which is decidedly of the European type, corroborates the testimony afforded by their languages, as to their affinity with the principal nations of Europe. Their languages form an important branch of the great Indo-European family, and embrace the Persian, Pushtu, Biluchee, Kurdish, Ossitinian, and Armenian. The *Syro-Arabian* or *Shemitic* nations are chiefly confined to this continent, and especially to its south-western angle—viz., Arabia, Syria, and the basin of the Euphrates and Tigris. In perfection of physical conformation, the Syro-Arabians are regarded as equalling, if they do not indeed surpass, all the other branches of the human family. Yet their characteristics are by no means uniform. The Syrians, who still preserve their lineage pure and unmingled among the mountains of Kurdistan, have a fair complexion, with grey eyes, red beard, and a robust frame. The wandering Arab of the Desert

is thin and muscular in form, with deep-brown skin, and large black eyes. The Jew is easily distinguished, in whatever country he takes up his abode, by his long oval face and the peculiar cast of his physiognomy, though his hair is found of all shades, from jet-black to red. The Shemitic languages are remarkably few in number, but, as a compensation for this, they can claim the highest antiquity, and are spread over an immense portion of the surface of the earth. They extend, without interruption, from the Persian Gulf and Lake Urumiah to the Atlantic, and from the Mediterranean and Mount Taurus to an undefined distance into the interior of Africa, where they come in contact with the Hamitic or African family. They are bounded on the east and north by the Indo-European or Japhetic family, and at one point (Asia Minor) come in contact with the Turkish—a Finno-Tartarian tongue. The principal Shemitic tongues are the Hebrew and Chaldee, now extinct, and the Syriac and Arabic, still widely spoken.

ASIATIC TURKEY.

Boundaries.—N., Transcaucasia, the Black Sea, and Sea of Marmora; W., the Aegean Sea, Mediterranean, and Red Sea; S., the Mediterranean, Arabia, and the Persian Gulf; and E., Persia and Transcaucasia. Lat. 12° 40'—42° N., lon. 26°—48° E.

Aleppo, one of the principal commercial emporiums of the Ottoman Empire (lat. 36° 11', lon. 37° 10'), is situated almost exactly in the centre of this wide area. It is in the same latitude as San Francisco, North Carolina, Gibraltar, Algiers, Malta, Rhodes, Mosul, Teheran, and King-ki-tao in Corea; and in the same longitude as Moscow, Kertch, Sinope, Gondar, and the mouth of the river Zambesé. Length, from Cape Baba to Gulf of Aden, 2000 miles; breadth, along the 35th meridian, 770 miles.

Area and Population.—The area is estimated at 671,997 square miles, and the population at 16,050,000. Hence Ottoman Asia, though five and a half times larger than the British Isles, is greatly exceeded in population by England alone.

Surface.—That of Asia Minor is mountainous, having a high tableland in the interior, and rich plains along the sea-coast. In Armenia the surface is a succession of high mountain-chains and elevated valleys. The western part of Syria is traversed by a great mountain-range, while the eastern is an immense desert plain. Mesopotamia consists partly of a continuation of the great Syrian desert, and partly of alluvial soil, once profusely watered by canals, but now unproductive through inactivity and misgovernment.

Divisions.—Asiatic Turkey comprises four great natural divisions—viz., Turkish Armenia, in the north-east; Asia Minor, in the north-west; Syria, including Palestine, in the south-west; and Mesopotamia, in the south-east. The political divisions, which are named *pashalicks*, vary in number and magnitude according to the varying power of their respective governors. At present they are seventeen in number, and have the same names as their respective capitals, which we give in Italics. (For Arabistan, in Arabia, see p. 162.)

TURKISH ARMENIA.—*Trebizond* 30, *Rizah* 30 (north coast), *Erzroum* 35 n. (W. Euphrates), *Kars* 12 n. (Aras), *Van* 15, *Betlis* 15 (L. Van).

ASIA MINOR.—*Sivas* 30, *Kaisarieh* 10 (*Kizil Irmak*), *Amasia* 20, *Tokat* 33 n., *Marsivan* 30 (*Yeshil Irmak*), *Arab-Gir* 30 (Euphrates), **SMYRNA** 150 (G. of Smyrna), *Sinope* 10 (north coast), *Kutaya* 50 n. (*Sakaria*), *Angora* 15 (*Murtadabad*), *Scutari* 60 (*Bosporus*), *Brusa* 60 (Sea of Mar-

mora), Bunarbashi (Scamander), Manissa 20 (Kodus), Aidin 30, Karahissar 60 n. (Mendereh), Adana 10 (Sihoon), Tarsus 7 (Cydnus), *Konieh* 30 n. (L. Beg-Shehr), *Marash* 18 (Jyhoon), *Lefkosia* 12 (I. Cyprus).

SYRIA.—*Aleppo* 80 (Koik), Antioch 27 (Orontes), Aintab 20 (Sajur), *Tripoli* 18, *Acre* 10, Beirout 60, Sur or Tyre 5, *Gaza* 15 (west coast), *Damascus* 150 (Burada), Hamah 44, Hems 30 n. (Orontes), Jerusalem 20 (Kedron).

MESOPOTAMIA.—*Baghdad* 65, *Diyaarbekr* 13, *Mosul* 40 (Tigris), Basorah 60, Hillah or Babylon 10 (Euphrates), Harran, Orfah 30 (Belikh), Arbel 6 (Great Zab).

Descriptive Notes.—Asiatic Turkey is very thinly peopled: only twenty-six of its towns have above 20,000 inhabitants; nine above 50,000; while Smyrna and Damascus have each 150,000.

ARMENIA.—*Trebizond* is well fortified, and is the natural entrepôt for the European trade with Armenia and Transcaucasia. It was here that Xenophon with the 10,000 Greeks reached the coast, on their memorable retreat after the battle of Cunaxa. *Erzroum*, the principal city of Turkish Armenia, possesses an extensive trade. *Kars*, near the Russian frontier, was taken by the Russians in 1855, after a gallant defence by the Turks. *Van* is a fortified city with a flourishing trade, and possesses some remarkable antiquities, which have been attributed to Semiramis. *Bellis* or *Billis*, with manufactures of cotton cloths celebrated for their bright red colour: near it the army of Solyman the Magnificent was defeated by the Persians in 1554.

ASIA MINOR.—*Sivas* or *Sivas* has manufactures of coarse woollen and other fabrics, with a considerable transit-trade. *Kaisarieh*, the ancient capital of Cappadocia, with iron-mines, is a place of great commercial importance. *Tokat*, a considerable depôt for agricultural produce, has manufactures of silk and calico, and a copper refinery. *Arab Gir*, a thriving town on the route between Trebizond and Aleppo. SMYRNA, the capital of Asiatic Turkey, and one of the largest and richest cities in the empire: it claims to be the birthplace of Homer, occupies a distinguished place in the early history of Christianity, was the scene of the labours and martyrdom of Polycarp, and is the only one of the great ancient cities on the western coast of the peninsula which has survived to this day. *Sinope*, long famous for its commerce, continues to be the best port on the north coast of Asiatic Turkey: here, in November 1853, the Russian fleet, emerging from Sevastopol, attacked and destroyed a Turkish squadron, consisting of thirteen ships, lying at anchor in the roadstead, when four thousand Turks were cruelly butchered. *Kutaya* (Cotyaum), a large populous city, sometimes regarded as the capital of Anatolia, has numerous mosques, public baths, and khans, and a large trade in goats' hair, wool, and agricultural produce. *Angora*, long famous for the fine silken hair obtained from a species of goat, and used in the manufacture of shawls. *Scutari* (pronounced *Scoo'-ta-ri*), a large and populous town on the Bosphorus, opposite Constantinople, of which it is usually considered a suburb. *Isnic* (Nicaea), a poor mean town, famous in ecclesiastical history as the place where the first general council was held, A.D. 325. *Brusa*, once the capital of Bithynia, is one of the most flourishing emporiums of commerce in Asiatic Turkey. *Bunarbashi* probably occupies a part of the site of ancient Troy. *Manissa* (Magnesia ad Sipylum), famous for its loadstones (hence called *magnets*), and for the victory gained by the two Scipios over Antiochus the Great, which secured to the Romans the empire of the East. *Aidin* or *Ghuzel-Hissar* is an important commercial city, and next in rank to Smyrna, with which it will soon be connected by a railway, the first and only one in Turkey. *Adana* has a trade in wool, cotton, corn, wine, and fruit. *Tarsus*, a celebrated city, and the ancient capital of Cilicia, was the birthplace of St Paul, and many other illustrious men. *Konieh* (Iconium), was visited by St Paul in his missionary travels: in the middle ages it was one of the greatest cities in Asia Minor, and is now a place of considerable trade. *Lefkosia*, see Notes on the Islands.

SYRIA AND PALESTINE.—*Aleppo* or *Haleb*, the principal city in North Syria, has long been celebrated for its silk and cotton manufactures, and for its productive gardens. *Antioch* (Turk. *Antaki*), once the proud capital of Syria and second to no city in Asia, was one of the earliest strongholds of the Christian faith:

here the disciples of our Lord were first called Christians, though now it does not contain a single Christian church. *Tripoli*, at the foot of a spur of Mount Lebanon, is surrounded by luxuriant gardens and remains of the architecture of the middle ages; it was taken by the Crusaders in 1108, when its large and valuable library was consigned to the flames: the principal exports are soap and sponges. *Acre*, *Akka*, or *St Jean d'Acre*, the ancient Ptolemais, near the foot of Mount Carmel, is one of the oldest cities of Phœnicia: it is celebrated for the memorable sieges it has sustained, but was reduced to a heap of ruins by the British fleet in 1840. *Beirut* or *Beyrout* is the port of Damascus and Central Syria, and has more commercial activity than any other Syrian port; valuable mines of coal and iron have been found in the vicinity. *Sur* or *Tyre* soon eclipsed its parent Sidon, and became one of the greatest and most famous cities of the ancient world; as early as the 11th century before the advent of Christ, the Tyrians had become famous for their skill in various manufactures and arts: its site is now occupied by a miserable village, which exports a little tobacco, cotton, charcoal, and fuel. The downfall and permanent desolation of Tyre is one of the most memorable accomplishments of prophecy which the annals of the world exhibit. *Gaza* (Arab. *Guzzeh*), a thriving town on the S.W. coast, with manufactures of soap and cotton fabrics, and a principal entrepôt for the caravans passing between Egypt and Syria: it was one of the five chief cities of the Philistines; the scene of some of Samson's famous exploits, and of his death; and near it Philip baptised the eunuch of Ethiopia. *Damascus*, the principal city in Syria, in a beautiful plain at the eastern foot of Anti-Lebanon: it is regarded by many as the most ancient city in the world, and it is certainly one of the earliest that attained to consequence: at its immense bazaars may be seen the representatives of all civilised nations, and above 200 merchants are here permanently settled: foreign trade is now carried on by the fine new macadamised road to Beyrout, opened in 1863, which is 75 miles in length. *Hamah*, the Hamath of Scripture, is at present one of the most pleasant towns of Syria, carrying on a brisk trade with the Arabs of the desert, and having manufactures of silk, cotton, and woollen stuffs. *Hems* or *Homs* was celebrated for its great Temple of the Sun. *Jerusalem* ("peaceful possession"), contracted into Salem, by far the most interesting and renowned city in the world, having been the site of the most important events recorded in the annals of history: the date of its origin is wholly unknown, but it existed in the time of Abraham, when Melchizedek was its sovereign: it was the capital of the Israelitish empire under David and Solomon, when it became the permanent centre of the true religion: after the division of the empire under Rehoboam it remained the capital of the kingdom of Judah till the time of the Captivity, B.C. 588: here the Saviour taught, here He wrought miracles, and here He suffered: after having been the scene of horrors unparalleled in the history of the human race, Jerusalem was abandoned to the Romans, who levelled it to the ground, A.D. 70: the principal modern buildings are the Mosque of Omar, on the site of the Temple of Jehovah, and the Church of the Holy Sepulchre, which is erroneously supposed to mark the spot where the crucifixion, burial, and resurrection of our Lord took place.

MESOPOTAMIA.—*Baghdad*, capital of a pashalick of same name, and formerly of the Saracen Caliphate, on both sides of the Tigris, 220 miles from the Persian Gulf, is a place of great trade, especially with Aleppo and Damascus; it was long the great emporium of all the surrounding countries, but its commerce has declined since Persia began to receive European goods by Trebizond and the Persian Gulf. *Bassorah* or *Basra*, the great emporium of the Turkish Empire for Eastern produce: ships of 400 tons can come up to the city. *Hillah*, a small town on the Euphrates, 60 miles S. of Baghdad, among the ruins of ancient Babylon, the first theatre of empire, and one of the most magnificent and famous cities of the ancient world. *Diyaibeke* or *Diarbekr*: here are some copper works and manufactures of cotton and silk. *Harran*, the Haran of Scripture, where Abraham and his family resided for a time on their journey towards Canaan. *Orfah*, the famous Ur of the Chaldees, the birthplace of Abraham, Nahor, and Lot. *Mosul*, on the Tigris, 215 miles N.W. of Baghdad, a considerable town with a brisk and flourishing trade, but chiefly interesting on account of its proximity to the ruins of ancient Nineveh, recently explored with such brilliant results by M. Botta, and by our indefatigable countryman, Layard: their excavations have brought to light the sculptured remains of several immense palaces of the ancient kings of Nineveh, most of which are deposited in the British Museum. *Arbel* or *Erbil*, the ancient Arbela, where Alexander the Great obtained his final and decisive victory over Darius, B.C. 331.

Capes.—Injeh, the northmost point; Baba, the westmost point; Krio, the most south-westerly point; Anamur, the most southerly point, of Asia Minor.

Islands.—Lesbos, Scio, Samos, Patmos, Cos, Rhodes—all off the west coast of Anatolia; Cyprus, in the Mediterranean, south-east of Asia Minor.

Many of these islands are highly celebrated. *Samos* was one of the chief centres of Ionian civilisation, literature, and art; but it is chiefly celebrated as having been the birthplace of Pythagoras. *Patmos* will be ever memorable as the scene of the Apostle John's banishment, and as the place where the volume of inspiration was completed. *Rhodes*, one of the largest islands in the whole Archipelago, is well watered and fertile, and celebrated from the remotest antiquity as a seat of commerce, navigation, literature, and the arts; but now reduced to a state of abject poverty by the devastations of war and the tyranny and rapacity of its Turkish rulers: its capital, Rhodes, with a population of 15,000, and in ancient times famous for its huge brazen statue of Apollo, was reduced to a heap of ruins by the earthquake of May 1863. *Cyprus*, a large and celebrated island of the Mediterranean, south of Cilicia, area 4500 square miles, population 108,000, of whom 75,000 are Greeks and 30,000 Turks: the island, in many parts sterile and uninhabited, is traversed from east to west by two mountain ranges, which attain their maximum height in Santa Croce (*Olympus*) 8000 feet above the level of the sea; capital, *Lefkosia*, near the centre, with 12,000 inhabitants.

Seas, Straits, and Gulfs.—Black Sea, N. of Asia Minor; Bosphorus, Sea of Marmora, and the Hellespont, between European and Asiatic Turkey; Gulfs of Adramyti, Smyrna, Scala Nova, and Cos, W. of Anatolia; Gulfs of Makri, Adalia, and Scanderoon, S. of Asia Minor; the Levant, W. of Syria; the Persian Gulf, S.E. of Mesopotamia.

Mountain System.—(See under "Asia," p. 152.)

River System and Towns.—(See after "Beloochistan.")

Lakes.—Van, in the S. of Armenia; Egerdir, in the S.E. of Anatolia; Tuz-gul, N. of Konieh; Bahr-el-Merdj, near Damascus; Lake of Tiberias, E. of Galilee; Dead Sea, S.E. of Palestine.

Most of these lakes are salt, and have no outlet. *Lake Van*, the largest, has an area of 1200 square miles. The *Lake of Tiberias*, or Sea of Galilee, is the most interesting sheet of water in the world, from having been so often navigated by the Saviour and the fishermen of Galilee whom he chose to be his apostles: on its western shores stood most of the towns which he frequented during his ministry—as Tiberias, Bethsaida, Chorazin, and Capernaum: the lake is traversed by the Jordan from N. to S.; the waters are fresh and teem with fish; and it has now been ascertained that its surface is 653 feet below the level of the Mediterranean. The *Dead Sea* or Lake Asphaltites (area, 860 square miles) is also very remarkable, as being the saltiest body of water known, with the exception of Tuz-gul, in Asia Minor; and as occupying the spot where once stood the guilty cities of the plain, Sodom, Gomorrah, Admah, and Zeboim; the waters are so intensely salt that no living creature can live in them, and so buoyant that men bathing in them find themselves floated like cork: as its surface is 1312 feet below the level of the ocean, it is obvious that, even before the destruction of Sodom, the Jordan could not have found its way to the Red Sea, unless indeed that catastrophe was accompanied by a general change of level over the entire country; the probability, therefore, is that there was a smaller lake here previously.

Climate.—Cold and humid in the mountainous regions, but warm and delightful in the plains and valleys. In the valley of the Jordan, especially in the plain of Jericho, the heat of summer is excessive, as also in the southern portion of Mesopotamia. The mean annual temperature at Jerusalem is 62°.6; summer, 73°.8; and winter, 49°.6. The peaks of Mount Ararat (17,112 feet high) are covered with perpetual snow, as also the loftiest summits of the Lebanon range (12,000 feet).

Products.—All the useful metals are found in the mountain-ranges. In Armenia, copper, lead, and alum occur, and some silver mines are wrought; rock-salt is found in considerable quantities, and mineral waters abound. In Asia Minor, copper, silver, lead, alum, nitre, and rock-salt. In Syria, iron, coal, and limestone.

The flora of Armenia is said to resemble that of the Tyrol and Switzerland. That of Asia Minor is extremely beautiful, and will bear comparison with the vegetation of Sicily and Spain. In Syria, the olive, fig, citron, orange, pomegranate, and vine, are especially luxuriant in the lower grounds; while natural groves of sycamores, mulberry-trees, evergreen oaks, cypresses, and cedars, clothe the uplands. Mesopotamia is celebrated for its dates, which form an important article of subsistence; and large crops of wheat, barley, rice, and maize, with tobacco, hemp, flax, and cotton, are produced. The native fauna of Asiatic Turkey does not present any remarkable species that are not equally found in the adjacent extremities of Europe and Africa. The lion, once so common, has wholly disappeared in the countries west of the Euphrates. In Mesopotamia occur the striped hyena, lynx, panther, buffalo, and wild boar; while jackals, bears, wolves, and wild hogs, are met with in Asia Minor. The leopard is still found in the interior of Palestine; the Syrian bear in Lebanon; the wolf in numerous localities. The domestic animals comprise the camel, dromedary, horse, ass, ox, sheep, and goat.

Ethnography.—Three distinct races of people are found in Asiatic Turkey—viz., the Turkish, Shemitic, and Caucasian. The *Turkish* race includes the Osmanlee, who form 9-10ths of the population of Asia Minor, and the Turcomans, who are very numerous in Mesopotamia and the north of Syria. Both these tribes speak the Turkish language, and profess the Mohammedan faith. To the *Shemitic* race belong the stationary Arabs, who constitute the majority in Syria, Palestine, and Mesopotamia; and the Bedouins, or Wandering Arabs, of the Syrian Desert, who speak the Arabic language, and are followers of Mohammed. The *Caucasian* race comprehends the Greeks, who form a large fraction of the population of Syria, Palestine, and Asia Minor, and belong to the Greek Church; the Armenians, who constitute about 1-7th of the population of Armenia, and profess a corrupt form of Christianity; the Kourds, who are generally Mohammedans; and the Yezidees or Devil-worshippers, in the north of Mesopotamia.

A R A B I A.

Boundaries.—N., Turkey in Asia; W., the Red Sea; S. and S.E., the Gulf of Aden and the Arabian Sea; E., the Gulf of Oman and the Persian Gulf. Lat. 12° 40'—35° N.; lon. 32° 30'—60° E.

Mecca, its most celebrated city, and often regarded as the capital, is on the same parallel of latitude with Mazatlan, Tampico, Havana, Cape Blanco, Surat, Nagpur, Arakhan, and Tonquin; while Jaroslav, Tcherkask, Medina, and Mozambique, are on the same meridian. The extreme length, from Suez to Ras-al-Had, is 1800 miles; and the extreme breadth, from the Strait of Babelmandeb to Cape Mussendom, nearly 1200 miles.

Area and Population.—The area is estimated at 1,220,000 square miles, and the population at 5,000,000. Arabia has, therefore, ten times the area of the British Isles, but less than one-sixth of their population.

Surface.—This immense peninsula—the westernmost of the three great peninsulas of Southern Asia—consists of a huge plateau, which attains in some places the height of 4000 feet. A great mountain-chain, pro-

longed from the Syrian Lebanon, extends along the entire W. coast, attaining its highest elevations in the Desert of Sinai, where Mount Horeb has a height of 8593 feet, and Jebel Mousa (Mount Sinai) 7498 feet. Another chain, nearly at right-angles with it, skirts the S. coast to the province of Oman, where Jebel Akhdar attains the elevation of 6010 feet. The coasts are generally low, but very fertile where water is abundant; but the whole country lying between Hedjaz and the Euphrates is a continuous plain of moving sands.

Political Divisions.—These are seven in number, viz. :—

ARABIA PETRÆA.—Tor (G. of Suez), Akaba (G. of Akaba), *Ruins of Petra* (Wady Mousa).

HEDJAZ.—Mecca, 60 n., Jiddah 22 (Red Sea), Medina 8 (the interior).

YEMEN.—Sana 40, Damar 25 (the interior), Mocha 7 (Red Sea), Aden 40 (G. of Aden).

HADRAMAUT.—Makalla 5, Shahr 6 (S. coast).

OMAN.—Muscat 40, Muttra 20, Sohar 9 (G. of Oman).

LACHSA.—Lachsa 15 (Aftan), Grane 10 (Persian Gulf).

NEDJED.—Deraieh 15 n. (Aftan), Anezeh (N. W. of Deraieh).

Descriptive Notes.—*Tor* or *Tûr*, a small town on the caravan-route from Egypt to Mecca, where the water is better than at any other place on the Red Sea. Half-way between Akaba and the Dead Sea are the famous ruins of *Petra*, the ancient capital of Idumea, surrounded by almost inaccessible precipices, and entered by a single narrow gorge. It was a city of great extent and magnificence, and commanded a large share of the traffic of the East. Some fine ruins of its public buildings still remain. *Mecca*, capital of the Hedjaz, and the most celebrated city of Arabia, is famous as having been the birthplace of the arch-impostor Mohammed (A.D. 571), and the cradle of the Mussulman religion. *Jiddah*, the port of Mecca, is the principal commercial entrepôt of Arabia. *Medina*, a celebrated city, was the seat of Mohammed's empire; hither he fled from Mecca in A.D. 622, and that year, termed the Hegira or "Flight," has ever since formed the great era in all parts of the Mohammedan world. *Sana* is a flourishing town, and carries on a great trade in coffee with Persia, India, and Turkey. *Mocha*, a fortified seaport, is chiefly celebrated for its coffee, the finest in the world. *Aden*, a strongly fortified seaport, belonging to Britain, and expected ere long to become the Gibraltar of the East. *Muscat*, a fortified maritime city, capital of the dominions of the Imam of Muscat, is the grand commercial emporium of Eastern Arabia. *Muttra*, a large town with shipbuilding docks. *Lachsa* is well watered, and surrounded by plantations of date-trees. *Deraieh*, formerly capital of the country of the Wahabees or Mohammedan reformers, was nearly ruined by the troops of Ibrahim Pacha in 1809.

Climate.—In common with Egypt and the Sahara, Arabia forms part of the great rainless zone, which extends from the Atlantic to the Pacific Ocean. The climate is, accordingly, one of the driest in the world. In summer the heat is intense along the Red Sea and the Persian Gulf, Mecca being one of the hottest places on the globe, having a mean annual temperature of 68°, while that of July is 90° Fahr. In the elevated interior, however, the temperature is more moderate. The rainy season lasts from the middle of June to the end of September. During the intense summer heat, the hot wind of the desert, called the simoom or samiel, blows from the interior in all directions.

Products.—Minerals are little known, but comprise the onyx, emerald, blue alabaster, granite, limestone, basalt and other volcanic productions; iron in Yemen; silver and lead in Oman; rock-salt in several localities. The S.W. angle of Arabia belongs to Schouw's "Region of Balsamic Trees." Here the vegetation is tropical, the greater part consisting of Indian forms. There are many trees yielding gums and

balsamic resins; the cultivated plants are maize, millet, date-palm, cocoa-nut, vine, coffee-tree, sugar-cane, cotton, and indigo. The entire remainder of the country belongs to the same author's "Desert Region." Here the flora is very poor, and cultivation is confined to the oases, where the date-tree comes to perfection. Wild animals are few in number, on account of the scarcity of wood and water. The principal beasts of prey are the panther, ounce, and hyena. Apes are numerous in Yemen. The wild ass of the desert is noted for its size and strength. The ibex inhabits the rocky heights, the antelope the plains, and the ostrich and lizard the barren sands. Among domestic animals the camel of Oman is celebrated for its beauty, and the dromedary is a useful beast of burden. The horse, which has been carefully bred for several thousand years, forms an important branch of traffic.

Ethnography.—The people of Arabia are a very mixed race, being partly descended from Ham and partly from Shem; the sons of Noah. Ham's eldest son was Cush, and the Cushites appear to have been the earliest inhabitants of Southern Arabia, from which they sent out colonies across the Red Sea, and peopled Ethiopia (Abyssinia). The descendants of Shem are principally the Joktanites, or Kachtanites, who, according to the Arabian geographers, settled in Yemen soon after the confusion of tongues; the Ishmaelites, who settled E. and S.E. of Palestine; the Midianites and Amalekites, who in Moses' time occupied the peninsula of Sinai; the Edomites and Nabatheans, who peopled Idumea, and had Petra for their capital; the Nahorites, who dwelt in the "land of Uz;" the Moabites and Ammonites, who occupied the territory E. and N.E. of the Dead Sea. These and many others, whose precise localities cannot now be determined, came in the course of ages to be thoroughly amalgamated, and to be known under the general designation of Arabs. The Arabic language, so remarkable for its copiousness and beauty, is the most important representative extant of the great Shemitic family of tongues. Its roots are in general identical with those of the Hebrew; and its inflections, though greatly more varied and numerous, bear to that language the closest affinity. It is extensively used as the language of religion and commerce wherever the Mohammedan faith prevails; and in it is written the Korán, the sacred book of the whole Mohammedan world. Ever since the time of Mohammed, Islamism has been the only religion known in Arabia.

Government.—Arabistan (Arabia Petræa, Hedjaz, and Yemen) is subject to Turkey, and the province of Oman to the Imam of Muscat. The rest of the country is shared among an uncertain number of petty states. The government of the Bedouins is strictly patriarchal in each of the numerous tribes, the chief power in each tribe being vested in a chief or *sheikh*, whose office is hereditary.

Manufactures and Commerce.—The former are at a lower ebb than in any other semi-civilised country. The leading object of industry is the raising of camels, horses, goats, sheep, &c.; but the women weave hair tent-covers and bags. In the western and southern provinces, coarse linens, woollen fabrics, rude matchlocks and other arms, are manufactured chiefly by foreigners. The pearl-fishery of the island Bahrein, on the coast of Lachsa, is perhaps the most extensive and valuable in the world. The transit trade of Arabia, though greatly inferior to what it was in ancient times, is still considerable; and large quantities of merchandise are brought by caravans and by sea from the surrounding countries.

P E R S I A.

Boundaries.—N., Western Turkestan, the Caspian Sea, and Transcaucasia; W., Asiatic Turkey; S., Persian Gulf and Arabian Sea; E., Biluchistan and Afghanistan. Lat. 26°–40° N.; lon. 44°–61° E.

Ispahan, the former capital, near the centre of the kingdom, is in the same latitude as the Bermudas, Madeira, Tripoli, Acre, Amritsir, and Nankin.

Area and Population.—The area is estimated at 562,327 square miles, and the population at 5,000,000. Persia is therefore nine times the size of England, with less than one-fourth its population.

Surface.—The central portion is an elevated plateau, about 3000 feet high, and is traversed by mountain-ranges which in many places attain to the height of 7000 or 8000 feet. The Paropamisan and Elburz ranges form its N. frontier, while the S.W. and S. are formed by a chain extending from the mountains of Kourdistan to those of Biluchistan (see under "Asia"). Many fertile tracts exist in the W. portion of this elevated region, but nearly all eastern Persia is an irreclaimable salt desert, forming a part of that rainless and sterile zone which extends from the great African desert to the frontiers of the Chinese empire.

Political Divisions.—These vary in number and magnitude, but usually comprise the following:—

ASTRABAD.—Astrabad 5 (Caspian).

MAZANDERAN.—Saree 15, Balfrush 10 n., Amol 40 n. (Caspian).

GHILAN.—Resht 50 n., Lahijan 15 (Caspian).

AZERBAIJAN.—Tabriz 100 (Aigi), Urumiah 25 n., Maragah 15 n. (L. Urumiah), Khoi 30 (Kotura, *aff.* Kur).

PERSIAN KOURDISTAN.—Kermanshah 30, Senna 25 (Kerkhah).

LURISTAN.—Korumabad 5 (Koon, *aff.* Kerkhah).

KHUZISTAN.—Shuster 8 (Karun), Dizful 15 (Dizful).

FARS.—Shiraz 30 (Rocknabad), Bushire 20 (Persian Gulf).

LARISTAN.—Lar 12 (S.E. Shiraz), Naakiloo (Persian Gulf).

KERMAN.—Kerman 30 (E. Lake Bakhtegan), Gombroon (S. coast).

YEED 50 (140 miles N. Kerman).

KHORASSAN.—Meshed 100 (Tejend), Nishapoor 12 (W. of Meshed), Kabooshan 15 (Attruck).

IRAK-AJEMI.—TEHERAN 85 (S. of Mt. Elburz), Kasbin 40 n. (Kizil-Ouzan), Zenjan 15 (Zenjan), Hamadan 40 n. (Koon), Ispahan 60 (Zendarood), Kashan 30 (S. W. Teheran).

Descriptive Notes.—*Astrabad*, though admirably situated for commerce, has very little trade; it is so unhealthy as to be generally called "the city of the plague." *Balfrush* contains numerous bazaars and caravanserais, and has a large general trade. *Resht*, a well-built town, with extensive bazaars. *Tabriz*, the entrepôt of the trade between Persia, Russia, India, Constantinople, and the Black Sea. *Urumiah* claims to be the birthplace of Zoroaster. *Maragah*, noted for the cave-temples in its vicinity, and for its white marble, which, when cut thin, is capable of being employed as a substitute for window-glass. *Khoi*, one of the finest towns in Persia; here Shah Ismael totally defeated the Turks in 1514. *Kermanshah*, a flourishing town, with manufactures of carpets, swords, and muskets. *Senna*, a romantic, flourishing town, in a deep secluded valley, filled with orchards. *Korumabad*; here the inhabitants live in tents instead of houses all the year round. *Shuster* was nearly depopulated by the plague in 1832. *Shiraz*, at one time the capital of Persia, is the birthplace of the famous poets Saadi and Hafiz. *Bushire*, more properly *Abu-Shehr* ("father of cities"), is the principal seaport of Persia on the Persian Gulf, and maintains an extensive trade with British India. *Lar*, formerly capital of an Arabian kingdom, has manufac-

tures of arms, gunpowder, and cotton fabrics, and the finest bazaar in Persia. *Nackloo*, a small town, busily engaged in the pearl-fishery. *Kerman* or *Serjan*, carries on a trade in wool, which is celebrated for its fineness. *Gomdron* or *Bunder-Abbas* belongs to the Imam of Muscat. *Yezd*, a fortified city, contains spacious bazaars, and has manufactures of silk, cotton, and woollen goods. *Meshed*, in a fertile plain, enclosed by strong walls, maintains an active trade with Bokhara, Herat, and other places: here is a magnificent mausoleum of Imam Reza, and of the celebrated Haroun-al-Raschid, caliph of Bagdad, whose reign was the Augustan era of the Arabian dominions. *Nishapoor*, celebrated for its turquoises, obtained from mines in the vicinity. **TEHERAN** superseded Ispahan as the capital of Persia in 1770. It consists of splendid edifices and magnificent gardens, intermingled with wretched mud-built huts. In summer the heat is so intense, that the Shah, and all who have the means, desert the city, and encamp on the plain of Sultania, about 150 miles to the N.W. *Kasbin*, a large, fortified, and commercial city, 90 miles N.W. of Teheran, celebrated for its grapes and pistachio nuts. *Hamadan*, the ancient Ecbatana, at one time the capital of the Median kingdom, and afterwards the summer residence of the Persian and Parthian kings. It is the Achmetha of the Book of Ezra, and contains the reputed sepulchre of Esther and Mordecai. *Ispahan* (Aspadana), the most important and populous city in Persia, of which it was formerly the capital. Under Shah Abbas the Great, who died in 1627, it was one of the richest and most populous cities in Asia; but during the Afghan invasion, in the eighteenth century, its walls were destroyed, and the city reduced to a state of decay.

Islands.—*Karak*, N.W. of Bushire; *Kishm* or *Kishma*, and *Ormuz*, at the entrance of the Persian Gulf.

Seas, Bays, and Straits.—The Caspian Sea, forming a part of the N. frontier; Persian Gulf and Gulf of Oman, between Persia and Arabia; Strait of Ormuz, connecting the Persian Gulf with the Gulf of Ormuz.

Mountains and Rivers.—For the Elburz and Zagros ranges, see under "Asia," and for the River-System, under "Biluchistan."

Lakes.—*Urumiah* in Azerbaijan; *Bakhtegan* in Fars.

Climate.—The climate of Persia presents the greatest extremes of heat and cold. On the elevated table-land of the interior the summers are excessively hot and dry, and the winters rigorously cold. Scarcely any rain falls, and trees refuse to grow, except near watercourses fed by springs. N. of the Elburz Mountains the climate is almost tropical; a dry and a rainy season regularly alternate, and vegetation presents a luxuriance not often seen in much lower latitudes.

Products.—The most celebrated minerals of Persia are the turquoise or calaite, found at Nishapoor, and the fine white marble of Maragah, so translucent as to be employed in windows.

The principal forests are confined to the lowland region between the Caspian and the Elburz Mountains, where also the orange, pomegranate, cotton plant, mulberry, sugar-cane, and vine come to perfection. The grains raised are rice, barley, and wheat; and the other principal products are tobacco, opium, assafoetida, gum-ammoniac, and other drugs. Among the wild animals are the lion, leopard, bear, panther, wild boar, tiger-cat, lynx, hyena, wolf, jackal, porcupine, argali or mountain sheep, and the booz or mountain goat. Domestic animals include most of the species common in Europe, with the camel and argali sheep.

Ethnography.—The population is very mixed. The nomadic tribes consist of Arabs in the S., Turcomans, Moguls, Uzbeks in the E. and N.E., and Kurds in the W. The settled tribes, who may be regarded as in general the descendants of the original inhabitants, are called *Taujiks*, and probably number about 3,000,000; while the wandering population are designated *Ilyats* or *Eilauts*, and do not exceed 2,000,000.

The *languages* are as numerous as the races by whom the country is peopled, but those most predominant are the Persian and Turkish. The latter prevails in

the northern and western provinces; but even here the natives are also acquainted with Persian, which is invariably the vernacular of the *Taujiks* in all parts of the country. The origin of the Persian dates from the invasion of the Arabs in the seventh century. The *Taujiks* are Mohammedans of the *Sheah* sect, who reject the authority of the first three caliphs. The *Ilyats*, on the contrary, are of the *Sunnite* sect; while the *Parsees* or *Guebres* are fire-worshippers.

The Government is despotic: the sovereign, who is called the *Shah*, is assisted by a grand vizier, who exercises control over the military and foreign departments, and by a lord high treasurer, who superintends the revenue and home arrangements. The chiefs of the nomadic tribes, who are called *Sheikhs*, are nearly independent. The annual *Revenue* has been estimated at about £2,000,000 sterling. The armed force, which is very variable in amount, numbers about 95,000 men, many of whom have received European discipline.

Manufactures and Commerce.—The principal manufactures are silk fabrics of all kinds; and in the principal cities, shawls of goats' hair, carpets, felts, cotton cloths, cutlery and arms, glass, pottery, leather, and saddlery. The commerce of Persia is extensive, notwithstanding the utter absence of roads. It is chiefly carried on with Russia, by the Caspian; and with British India, by way of the Persian Gulf. The chief exports are the native products already enumerated, together with copper wares, saffron, specie, skins, and sabres. The principal ports are *Bushire* and *Gombroon* on the Persian Gulf, *Balfrush* and *Astrabad* on the Caspian. The maritime traffic on the Caspian is entirely in the hands of the Russians, while that of the Persian Gulf is shared in by the English and the Sultan of Muscat.

AFGHANISTAN.

Boundaries.—N., Western Turkestan; W., Persia; S., *Biluchistan*; E., the *Panjab*. Lat. 27° 50'—36° 30' N.; lon. 60°—72° E.

Candahar, near the centre of the country, is nearly in the same latitude with *Austin* the capital of Texas, *Savannah*, *Marocco*, *Alexandria*, *Jerusalem*, *Lahur*, and *Shanghai*.

Area and Population.—The area is estimated at 258,500 square miles, the population at 4,000,000; or nearly twice the area of the British Isles, with about one-eighth of their population.

Surface.—The north consists of a lofty plateau, from 5000 to 9000 feet high, traversed by stupendous mountain-chains (see p. 152). *Candahar*, near the centre, has an elevation of 9000 feet. The S.W. is a desert, from 3000 to 5000 feet high, resembling the deserts of Arabia. The *Suliman Mountains* on the eastern frontier are only 6260 feet high.

Political Divisions.—These are four in number—viz., *Kabool*, *Herat*, *Candahar*, and *Seistan*.

KABUL.—*Kabul* 60, *Jelalabad* 3 (*Kabul*, *aff.* *Indus*), *Istalif* 15 (*aff.* *Kabul*), *Ghuznee* 10 (*Ghuznee*), *Bamian* (in the *Bamian Pass*).

HERAT.—*Herat* 60 (*Heri-rood*).

CANDAHAR.—*Candahar* 100 (*Urghandab*, *aff.* *Helmund*).

SEISTAN.—*Dushak* or *Julalabad* 10 (*Helmund*).

Descriptive Notes.—*Kabul* is celebrated above all other cities for its excellent fruits. It has an extensive transit trade between Russia, China, Turkestan.

and India, and was the scene of the treacherous outbreak of the chiefs in 1842, when 3800 British soldiers and 12,000 camp-followers were massacred. *Jelalabad*, famous for the heroic and successful resistance made by the British troops under Sir R. Sale in 1841-2. *Istatif*, a considerable town, surrounded by fine gardens, was partly destroyed by the British in 1842. *Ghuznee*, a famous city, surrounded by a lofty wall flanked with numerous towers, is the entrepôt of the trade between Afghanistan and the Punjab. *Bamian*, in the celebrated pass which leads from Afghanistan to Independent Turkestan—the only known pass across the Hindu Kush practicable for artillery. *Herat*, long the capital of the extensive empire ruled by the descendants of Timur, is still a post of great military and commercial importance. It is the centre of a great trade between India, China, Tartary, Afghanistan, and Persia: is regarded as the key of India from the west, and has alternately belonged to Persia and Kabul. *Candahar*, a fortified city, and the winter residence of the Khan, has various manufactures, and a considerable transit trade between India and Persia.

Lakes.—Seistan or Hamun in the west, and Ab-istada in the east.

Climate.—The summer heat is overpowering in the valleys and lower levels. The snows of winter lie long and deep in the mountainous parts, and the cold is very intense. This was the main cause of the sufferings of the Anglo-Indian army during their disastrous retreat in January 1842. Scarcely any rain falls in the western part of the country, where the climate greatly resembles that of Persia.

Products.—Gold, silver, mercury, iron, lead, copper, antimony, coal, sulphur, naphtha, and rock-salt, are all found in small quantities.

The vegetation of the uplands resembles, in general, that of Europe, and that of the lowlands the flora and cultivated plants of India, as rice, cotton, sugarcane, millet, maize, and turmeric. The wild animals are neither numerous nor very formidable, with the exception of wolves and a small species of lion found near Kabul. The camel and dromedary are the usual beasts of burden, while other domestic animals comprise the ass, mule, goat, dog, and cat. The sheep is remarkable for the size of its tail, consisting of a mass of pure fat, and weighing from 10 to 12 lb.

Ethnography.—The Afghans, or Pushtaneh as they designate themselves, are a warlike, semi-barbarous people, and probably the aborigines of the country.

The Pushtu language forms an important branch of the Medo-Persic group of tongues, which is itself a member of the Indo-European family. The Pushtaneh number about 3,000,000, and are all Mohammedans of the Sunnite sect. The other principal tribes are the Huzarehs, inhabiting the wild highlands of the north, who are generally Mohammedans of the sect of Ali; the Taujiks or Persians in the west; Hindus in the south; and Elmaks, Uzbeks, and Bluchees, in various localities.

Government.—The government of Afghanistan was formerly a monarchy, the crown being hereditary in a branch of the Dooraanee tribe, one of the four principal branches into which the Pushtaneh are divided; but the country is now divided into three separate and independent principalities—viz., those of Kabul, Candahar, and Herat. Seistan is subdivided into a number of petty chiefships, which acknowledge the supremacy of the ruler of Herat.

Manufactures and Commerce.—The manufactures are unimportant, and confined chiefly to woollen and cotton stuffs for home consumption. The transit trade is considerable, and carried on by means of camels and dromedaries, formed into caravans, as the roads are not adapted to wheeled carriages. The principal foreign trade is conducted with India, Persia, and Turkestan. The chief exports consist of horses (which are reared in great numbers, and transported to India), furs, shawls, chintz, madder, assafœtida, tobacco, fruits, and Herat carpets.

BILUCHISTAN.

Boundaries.—N., Afghanistan; W., Persia; S., the Arabian Sea; and E., Sindh. Lat. $24^{\circ} 50' - 30^{\circ} 20' N.$; lon. $57^{\circ} 40' - 69^{\circ} 18' E.$

Kelat, the capital, is on the same parallel with the mouth of the Mississippi, the Peak of Teneriffe, Suez, Bushire, and Delhi.

Area and Population.—The area is estimated at 166,000 square miles, the population at 2,000,000; or five times the size of Ireland, with about one-third of its population.

Surface.—Nearly the whole country is mountainous, rugged, and elevated, except in the N.W. and along the coast; and water is deficient, being absorbed by the deserts. The Wushutee Mountains, between it and Afghanistan, attain in Takkatu, one of their summits, an elevation of 11,000 feet; and the Hala Mountains, between it and Sindh, reach the same altitude.

Political Divisions.—Biluchistan' consists of seven provinces—viz., Kachh-Gundā'va in the N.E.; Sarawan, W. of Kachh-Gundava; Kelat', S.E. of Sarawan; Jhalawan, S. of Kelat; Lus, in the S.E.; Mekran', in the S.W.; and Kohistan', in the N.W.

TOWNS.—Kelat 12 n., Gundava 20 n. (Gundava, *aff.* Indus), Dadur 3 (Naree), Bela 6 (Poorally), Sarawan 3 (Bale), Kedje 10 (Dasti or Moolcane).

Descriptive Notes.—Kelat, a strongly fortified town surrounded by mountains, and well supplied with water, was the stronghold of Nadir Shah. In 1839, and again in 1841, it was stormed and taken by the British. It has a considerable transit trade, with some manufactures of arms. Dadur, near the S.E. entrance of the celebrated Bolan Pass—one of the chief roads from India to the west—is said to be one of the hottest places known. In 1840 the British troops routed a Kelat force here. Bela, capital of Lus, is built of mud houses. Sarawan, capital of province of same name, a small town surrounded by a mud wall, in a barren district. Kedje, the capital of Mekran, once a place of considerable importance, is now greatly decayed. Buzpoor, capital of Kohistan, a small ill-built town, in a sterile region, and defended by a fort.

Climate.—The climate in the higher parts is extremely cold in winter. Snow falls from October to the end of February, and in some places remains on the ground for two months. In the plains and valleys the heat in summer is oppressive. In February and March a good deal of rain falls; and from the latter month to September is the dry season.

Products.—The mineral wealth of the country is considerable, including gold, silver, lead, iron, copper, tin, antimony, sulphur, alum, sal-ammoniac, and many kinds of mineral salts and saltpetre.

The vegetation is of a tropical character, including trees yielding gums and balsamic resins. The oak, ash, fir, and other trees common in Europe, are unknown. In the low and watered plains of the N.E. are grown rice, cotton, indigo, tobacco, sugar-cane. The fauna closely resembles that of Persia. Wild animals are numerous, especially leopards, wolves, hyenas, jackals, tiger-cats, and foxes; but, except on the eastern frontier, lions and tigers are rarely seen. The other animals, wild and domestic, are for the most part the same as those of Afghanistan.

Ethnography.—Two races of people are found in Biluchistan—the Biluchees and Brahuees. The former, inhabiting the western part of the country, are a rude, nomadic, pastoral people, supposed to have sprung from the Seljukian Turks. They are Mohammedans of the Sunnite sect, and speak a very corrupt dialect of the Persian, termed

Biluchee, which contains no literature, save a portion of the Scriptures translated into it by the Serampore missionaries. The Brahooses inhabit chiefly the eastern provinces, and are most numerous in Jhalawan. They speak a language of Sanscritic origin, greatly resembling the Punjabee, but hitherto not reduced to writing. They are Mohammedans of the sect of Omar.

Government.—The eastern provinces are under the uncertain authority of the Khan of Kelat; the remainder being held by tribes who acknowledge no subjection except to their own chiefs.

Commerce.—The trade of Biluchistan is usually conducted by means of caravans, and is almost wholly in the hands of Hindus. Agriculture is not much pursued—not one-hundredth part of the land being under cultivation; but the Brahooses rear large numbers of goats and black cattle. The principal exports are butter or ghee, hides, wool, drugs, dried fruit, fish, corn, and vegetable oil.

Table of Rivers and Towns.—The following exhibits the River-system of Asiatic Turkey, Arabia, Southern Persia, and Biluchistan:—

Basins inclined to the Black Sea and Mediterranean.

Rivers.	Towns.	Rivers.	Towns.
N. Co. Armenia, Trebizond, Rizah.		Cydnus,	Tarsus.
Yeshil Irmak, ..Amasia, Tokat, Mar-		Sihoon,	Adana.
sivan.		Tyhoon,	Marash, n.
Kizil Irmak, Kaisarieh, n., Sivas.		Orontes,	Antioch, Hamah,
N. Co. Asia Minor, Sinope.			Hema.
Sakaria,	Kutaya.	Co. of Syria,	Tripoli, Beirut, Sur
Murtadabad, ..	Angora.		(Tyre), Acre, Gaza.
Bosporus,	Scutari.	Jordan (Dead }	Eriha (Jericho), n.
S. of Marmora, ..	Brusa.	Sea,	
W. Co. Asia Minor, <i>Bunar-Bashi</i> , SMYR-		Kedron,	Jerusalem.
NA.		Burada (L. of }	DAMASCUS.
Kodus,	Manissa.	Damascus), }	
Menderes,	Aidin, Karahissar, n.		

Basins inclined to the Arabian Sea.

E. Co. Red Sea, .. Suez, Akaba, Jiddah,		Koon, l	KHORUMABAD, Ha-
MECCA, n., Mocha.			madan, n.
S. Co. Arabia, .. Aden, MA KALLA,		Tigris, l	BAGHDAD, Mosul,
Shahr.			Diyarbekr.
G. of Oman, MUSCAT, Muttra, So-		Belik, l	HARRAN, Orfah.
har.		Sajur,	Aintab, ALEPPO, n.
Aftan,	LACHSA, DERAIEH, n.	W. Euphrates, Arab-Gir.	
E. Co. Arabia, .. Grane.		Persian Gulf, .. Bushire, Nackiloo,	
Euphrates,	Bassorah, Hillah,		Gombroon.
	ERZBOUM, n.	Dastl,	Kedje.
Karun, l	SHUSTER.	Poorally,	Bela.
Kerkhab, l	Kermanshah, Senna.		

INDIA, OR HINDUSTAN.*

Of the three great peninsulas in which Asia terminates on the south, India forms the central and by far the most important.

Boundaries.—N., Tib'et, from which it is separated by the Himalay'a

* The orthography of many of the proper names contained in the following article is now altered, in accordance with the system uniformly adopted in India, but in most cases the former spelling will be found in the "Descriptive Notes."

Mountains; W., *Afghanistan*, *Biluchistan*, and the Arabian Sea; S., the Indian Ocean; E., Bay of Bengal and *Bürma*. Lat. 8° — 36° N., lon. $66\frac{1}{2}^{\circ}$ — $99\frac{1}{2}^{\circ}$ E.

In form it is a triangle, whose base is the Himalayas, the loftiest mountains on the globe, and whose apex stretches far out into the Indian Ocean. Its southern half lies within the torrid zone: Calcutta, on the central parallel, and only one degree south of the Tropic of Cancer, is nearly in the same latitude as C. Blanco, Mecca, Muscat, Baro'da, Canton, Mazatlan, and Havana. The country consists of three great natural divisions—viz., the basin of the Gan'ges in the north-east; the basin of the In'dus in the north-west; and the Dak'han, or strictly peninsular part, forming an elevated plateau in the south.

Area, Population, and Political Divisions.—Including Ceylon' and the British possessions in *Bürma*, the area is estimated at 1,476,000 square miles, and the population at 191,629,000, or twelve times the area of the British Isles, with six times their population.

About four-sevenths of this immense area, together with three-fourths of the population, are directly subject to the British Crown; while there are about 200 small native states additional, more or less under British protection. Besides these, there are four native independent states—viz., Gwá'lior, Nepal', Kashmir', and Bhotan'. The foreign possessions are now of very limited extent: those of the French are almost annihilated; the Portuguese still linger in a few spots, the scenes of their former grandeur; while the Danish possessions have become extinct.

BRITISH POSSESSIONS.—British India now consists of the following eight subdivisions—viz., 1, the Presidency of Bengal', embracing Bengal, Oris'a, Behar', Asam', and Chittagong', and occupying the lower basins of the Gan'ges and Brahmapú'tra; 2, the North-West Provinces and Oudh, including Bená'res, Allahabad', Ag'ra, Oudh, and Rohilkhand, all in the upper basin of the Ganges; 3, the Panjáb', with Sirhind' and Del'hi, chiefly in the upper basin of the In'dus; 4, Central Provinces and Berar', in the north of the Dak'han; 5, Bombay' Presidency or Sindh, British Gujarat', and the Kon'kan, in the west of the Dakhan and in the lower basin of the Indus; 6, the Presidency of Madras', consisting of the Sarkars', Karnát'ak, Balaghat', and Koimbatúr', in the south of the Dakhan; 7, the Island Ceylon', south of the Dakhan; 8, British *Bürma*, or the South-Eastern Provinces, on the eastern side of the Bay of Bengal'. The principal towns in these are as follows:—

Bengal' Presidency.—CALCUTTA 616, Kal'na 60, Murshidabad' 147 (Hug'li), Pat'na 284 (Ganges), Bardhwan' 54 (Damú'da), Pur'neah 50 (Co'sa), Behar' 30 n., Gay'a 43 n. (Fulgo), Dac'ca 66 n. (Brahmapú'tra), Chittagong' 12 (Bay of Bengal), Katak' 40, Pú'ri 30, Sambhalpúr' 30 (Mahaná'di).

N.W. Provinces and Oudh.—Bená'res 200, Mirzapúr' 80, ALLAHABAD' 68, Kanhpúr' 109, Farrukhabad' 132, Haridwar' 100 (Ganges), Faizabad' 100 (Ghag'ra), Gorakhpúr' 54 (Rap'ti), Lukhnow' 300 (Gum'ti), Ag'ra 125, Mat'ra 65 (Jam'na), Ban'da 33 (Cane), Mirat' 29 (Ká'ti Ná'di), Shahjahanpúr' 63, Pilibhit' 27 (Gur'ra), Bareilly 110, Rampúr' 100, Almo'ra 10 n. (Ramgun'ga).

Panjáb', Sirhind', and Del'hi.—Ludhiá'na 47, Ambá'la 22 (Sat'lej), Multan' 80 (Chenáb'), LAHÔR' 120, Amritsár' 115 (Rá'vi), Jalandár' 40 (B'ýas), Pesháwar 56 (Kabúl'), Del'hi 152 (Jam'na).

Central Provinces.—Sagar' 50 n. (Cane), NAGPUR' 112 (Nag), Gur'rah 25, Jabalpur' 30 (Narmā'da), Ellichpur' (Pur'na).

Bombay' Presidency.—Haidarabad' 24 n., Karā'chi 22 n., That'tha 20, Shikarpur' 30 n. (In'dus), BOMBAY' 817 (I. Bombay), Ahmadabad' 130 (Sabarmā'ti), Surat' 134 (Tap'ti), Pū'na 75 (Mutamū'la), Nas'ik 25 (Godavari).

Madras' Presidency.—Mangalūr' 12, Kal'ikut 25, Cochin' 30 (W. coast), Tallangambā'di 25, Tanjūr' 40, Trichinapāl'i 30 (Kā'veri), Arkat' 50, Veltūr' 52 (Pā'lar), MADRAS' 500 (E. coast), Nizampat'nam 25 n., Machhli-pat'nam 28 (Krish'na), Karnūl' 20 (Tungabhad'ro), Bal'lari 30 (Hin'deri), Rajamahen'dri 20 (Godā'veri), Vishakpat'nam, Shikako'lam 50 (E. coast).

Ceylon.—COLOMBO 70 (W. coast), Galle 3 (S. coast), Trin'comali' 30 (E. coast), Kan'dy (centre).

British Burma and Straits Settlements.—Arakhan' 8 (Koladain'), Rangūn' 15, Prome 30 (Irawā'di), Pegū' 6 (Pegu), Mulmein' 17 (G. of Martaban'), George'town 40, Malac'ca 12, Singapur' 26 (Str. of Malacca).

PROTECTED STATES.—The principal native states under British protection, and in the order of the Presidencies in which they occur, are the following:—

Kh'asia States.—Chir'ra Pun'ji (Sur'ma).

Manipur.—Manipūr' (Kong'bo, *affl.* Brahmapū'tra).

Kūsh-Bihar'.—Behar' (Nilkomar).

Sikhim'.—Sikhim' (Atri, *affl.* Ganges).

Sikh States.—Patia'la 20 (Kosil'la), Jhind 20 (Chitang'), Sirhind' 20 (Satlej).

Bhawalpur'.—Bhawalpur' 20 (Sat'lej).

Rajpūt States.—Jodhpūr' 150 n., Pā'li 50 (Lū'ni), Jeysalmir' 35, Nagur' 40, Bikanir' 60 (Indian Desert), Bhurtpur' 100 n. (Jam'na), Bundi, Kō'ta (Chamb'al), Jaypur' 400 n. (Bū'nas).

Kachh.—Bhūj 20 n. (G. of Kachh).

Gujarat.—Baro'da 100 (Mā'hi), Futun' 30 (Surraswut'ti).

Mal'wa, Bhopal', and Indur'.—Indūr' 15, De'was 25 (Sip'ra), Dhar 100 (Chamb'al), Bhopal' (Bet'wa).

Kolhapur'.—Kolhapūr' n. (Krish'na), Sawant' Wā'di 10 n. (Kon'kan coast).

Travancore'.—Trivan'deram 12, Kolam 20 (Malabar' coast).

Maisur'.—Maisūr' 65, Seringapatam' 12 (Kā'veri), Bengalūr' 140 n. (Pennar').

Haidarabad'.—Haidarabad' 200, Sikandarabad' 40 (Mū'si), Bī'dar 50 (Manja'ra), Aurangabad' 60 (Dudh'na), Assay'e (Pur'na).

Bandalkhand'.—Jhan'si 50, Dati'ya 40 (Bet'wa).

INDEPENDENT STATES.—These are now few in number, and chiefly bordering the Himalaya.

Bhotan.—Tasisū'don (Godā'da, *affl.* Brahmapū'tra).

Nepal'.—Khatman'du 50, Patan' 24 (Bishnmā'ti).

Kashmir'.—Srinagar' 40 (Jhelam'), Iskar'do (In'dus).

Gwallor'.—Gwā'lior 50 n. (Sindh, *affl.* Jam'na), Ujjain' 130 (Sip'ra).

FOREIGN POSSESSIONS.—The non-British European possessions are now reduced to the two following:—

French.—Pon'dicheri 30 (Coroman'del coast), Chandranagar' 30 (Hugh'li).

Portuguese.—Pan'jim 20, Go'a 5 (Kon'kan shore).

Descriptive Notes.—India contains three towns of above 500,000 inhabitants (Bombay, Calcutta, Madras); five between 500,000 and 200,000 (Jeypur, Lukhnow, Patna, Benares, Haidarabad); twenty bet. 200,000 and 100,000; and twenty-five bet. 100,000 and 50,000.

BENGAL.—*Calcutta*, the capital of British India, and by far the most magnificent city in Asia, stands on the Hughli, an arm of the Ganges, above 100 miles from the sea. It contains numerous splendid buildings, and is defended by Fort William, the largest fortress in India: as a commercial emporium, it is unrivalled in Asia, its annual imports amounting to two millions sterling, and its exports to more than five millions. *Kalna* (Culina), a place of considerable trade, and a station for steamers plying between Calcutta and the North-West Provinces. *Murshidabad*, a large, populous, but extremely unhealthy city, was the capital of Bengal till superseded by Calcutta. *Patna* maintains a large trade in opium, rice, wheat, indigo, saltpetre, and sugar. *Bardhaman* (Burdwan) has coal and iron mines in its vicinity. *Purneah* is largely engaged in the cultivation of indigo. *Gaya*, one of the sacred places of the Hindus, is visited annually by upwards of 100,000 pilgrims. *Puri* or *Jagannath* (Juggernaut) is distinguished over India as one of the principal strongholds of the Hindu superstition: the famous temple, completed in A.D. 1198, is said to have cost half a million sterling. *Sambhalpur* (Sumbulpore) is celebrated for its diamonds, principally found in the Mahanadi.

N.W. PROVINCES AND OUDH.—*Benares*, a large, populous city on the Ganges, and, in the estimation of the Hindus, the most sacred place in the world, contains many wealthy native bankers and dealers in diamonds, for which it has long been famed. *Mirzapur*, a great mart for cotton. *Allahabad*, cap. of the N.W. Provinces, is a grand military depôt, and one of the sacred cities of the Hindus. *Cawnpore* (Cawnpoor), one of the most important commercial cities on the Ganges, will be long memorable as the scene of Nana Sahib's brutal atrocities in the late Indian mutiny. *Farrukhabad*, one of the principal marts of commerce in Northern India. *Haridwar* (Hurdwar), a place of immense commerce, and the seat of the largest annual fair in India. *Faisabad*, the former capital of Oudh, is a populous place, with extensive ruins in the city. *Lukhnow*, cap. of the late kingdom of Oudh (now a British possession), is a large and populous city, containing some noble buildings: when attacked by the rebels in 1857, the British garrison, commanded by Sir H. Lawrence, shut themselves up in the Residency, which they defended with great valour for eighty-seven days. *Agra*, formerly the capital of the Moghul empire, contains the celebrated Tajmahal, or mausoleum of Shah Jehan, the finest existing specimen of Mohammedan architecture. *Matra* (Muttra) is sacred in the Hindu mythology, from being the birth-place of the divinity Krishna. *Banda*, a great mart for cotton. *Mirat* (Meerut) will be ever memorable as the scene of the outbreak of the terrible Indian rebellion of 1857. *Pilibhit*, celebrated for its rice, has considerable traffic. *Bareilly*, a considerable city in Rohilkhand, with a brisk and lucrative commerce. *Rampur*, a large town on the Ramgunga, built of mud.

PUNJAB, SIKHIND, AND DELHI.—*Ludhiana*, the most flourishing commercial city in the Ols-Satlej territory. *Multan*, the fourth city in the Panjab for commerce and population, was taken by the British in 1849. *Lahur*, cap. of the Panjab, was taken from the Sikhs in 1849: it was formerly one of the residences of the Moghul emperors. *Amritsar*, the sacred capital of the Panjab, and the chief seat of the Sikh religion, possesses great wealth and commerce. *Peshawar*, near the Khyber Pass, is the frontier town of Hindustan towards Afghanistan, to which it formerly belonged. *Delhi*, a magnificent city on the Jamna, is of high antiquity, and was long the metropolis of the Mohammedan empire in India. It was the scene of great atrocities against the British in the late insurrection.

CENTRAL PROVINCES.—*Sagar* (Saugor), an important town near the Cane, with a fort and a military cantonment. *Nagpur* ("the city of serpents"), the principal place in the Central Provinces, has extensive trade and numerous banking establishments. *Jabalpur* has a military cantonment and a school of industry.

BOMBAY PRESIDENCY.—*Haidarabad*, cap. of Sindh, is a fortified city, containing a bazaar and a manufactory of arms. *Karachi*, near the mouth of the Indus, is the principal seaport of Sindh. *Thatta*, the ancient capital of Sindh. *Sat-*

karpur has a great transit trade through the Bolan Pass. *Bombay*, cap. of Presidency of same name, and perhaps the most populous city in India, is situated on a small island, which is connected with the mainland by an artificial causeway: the harbour is land-locked, perfectly secure at all seasons, and embraces an area of 50 sq. m.; its facilities for commerce and shipbuilding give it a superiority over every other city in India, while its trade is second only to that of Calcutta, its exports alone being valued at 5½ millions sterling. *Ahmadabad*, a large, handsome city, was captured by the British in 1780, and is now the headquarters of the Bombay army. *Surat*—here was founded the first mercantile establishment of the East India Company in 1612; its trade is now greatly declined. *Puna*, formerly the cap. of the Mahratta empire, is the principal military cantonment of the Dakhan. *Nasik*, the centre of Hinduism in the Dakhan, has extensive Buddhist cave-temples in its vicinity.

MADRAS PRESIDENCY.—*Mangalur*, noted for the treaty of peace concluded here in 1784, between the East India Company and Tippu Sahib. *Kalikut*, the first place in India touched at by Vasco de Gama. *Cochin*, one of the principal seaports on the west coast, is noted for shipbuilding. *Tanjur*, celebrated for its great pagoda, considered the finest of the pyramidal temples of India. *Trichinapalli*, noted for its hardware, cutlery, jewellery, and cheroots. *Arkat* (Arcot), the scene of a memorable engagement between Clive and Rajah Sahib in 1751. *Vehur* (Vellore), one of the healthiest military stations in India, is noted for the massacre of the Europeans in the mutiny of 1806. *Madras*, capital of the Presidency, and one of the most populous cities in India; it possesses no harbour, in consequence of which its commerce has greatly suffered; but a pier has lately been erected under great engineering difficulties. It is well built and handsome, and contains a university, cathedral, and several literary establishments. *Machhlepattam* (Masulipattam), a fortified city, being noted for its chintz manufactures. *Shikakolam* (Chicacole), noted for its muslin manufactures.

Ceylon.—*Colombo*, the capital and principal seaport of the island, is strongly fortified; it was taken from the Dutch in 1796, and is now the entrepôt for most of the foreign trade. *Galle*, or *Point de Galle*, an important station for steam packets, has an excellent harbour. *Trincomali*, a fortified town, on one of the finest harbours in the world. *Kandy*, the former capital of Ceylon.

BRITISH BURMA, &c.—*Arakhan* is extremely unhealthy, and has been the grave of many a British soldier. *Rangun*, the principal seaport of Pegu. *Prome*, the most populous city in Pegu, was taken by the British in 1852. *Mulmein*, the principal town and seaport in the Tenasserim provinces. *Georgetown*, in Pulo Penang island, is admirably situated as a mercantile station. *Singapur* has rapidly risen to importance as a great commercial entrepôt for the goods of Europe and Asia.

PROTECTED STATES.—*Chirra Punji*, 4200 feet above the sea, is said to be the rainiest place in the world, there being no less than 610 inches of rain falling from May to October. *Behar* produces the best opium in India. *Sikkim*, capital of a small native state of same name on the southern flank of Kinchinjunga, one of the loftiest of the Himalaya. *Patiala*, *Jhind*, and *Sirhind*, are the respective capitals of small native states of same names in the Cis-Satlaj territory. *Bharuipur* has flourishing manufactures of silk. *Jodhpur*, capital of Marwar, the largest state in Rajputana, is noted for its immense citadel. *Pali*, a great entrepôt for Malwa opium, on its way to Bombay. *Bhurtpur* carries on an extensive trade in salt, derived from a lake in its vicinity. *Jaypur*, the largest and most elegant city in all India that has been erected solely by the natives. *Bhuj* is renowned for its manufactures in gold and silver. *Baroda*, capital of the Guicowar's dominions, is a large and populous city, extensively engaged in trade. *Indur*, capital of Holcar's dominions, contains numerous Brahminical temples and a British residency. *Kolhapur*, the scene of a rebellion in 1844, which was put down by a British force. *Trivanderam* has a fine palace and an extensive garrison. *Maisur*, capital of a native state of same name, is a large, well-built town, with a fort and British residency. *Seringapatam* was the capital of Maisur, under Tippu Sahib, who was slain here by the British in the famous siege of 1799. *Bengalur*, a large fortified town, containing the palace of Tippu Sahib. *Hydarabad*, a large, beautiful, and populous city, capital of the Nizam's dominions; near it *Golconda*

famed as a *dépôt* for diamonds and other jewels. *Bidar*, noted for its manufacture of Bidari-ware, an alloy of tin and copper, used for the bowls of tobacco-pipes. *Aurangabad*, once the favourite residence of Aurangzebe, the last Moghul emperor; near it *Ellora*, noted for its remarkable cave-temples, which, in magnitude and execution, surpass all other structures of the kind in India.

INDEPENDENT STATES.—*Tashtudon*, cap. of Bhotan, is the residence of the Deb Rajah, who has here a fortified palace. *Khatmandu*, cap. of Nepal, contains many Buddhist temples. *Srinagar* (Kashmir), cap. of Gholab Singh's dominions, was long noted for its gorgeous shawls, manufactured from the fine hair of the Kashmir goat. *Gwalior*, cap. of the possessions of Sindhia's family, is a large town, with a strong citadel, situated on a precipitous rock. *Ujjain*, formerly cap. of Gwalior, is one of the seven sacred cities of the Hindus, and the first meridian of their geographers.

FOREIGN POSSESSIONS.—*Pondichery*, cap. of the French possessions in India, is a very handsome maritime town. *Chandranagar*, once an elegant and opulent city, is now falling into decay. *Panjim*, cap. of the Portuguese possessions in India, is a handsome, well-built town. *Goa*, the former capital, once opulent and powerful, is now falling into decay.

Capes and Peninsulas.—Peninsula of Kathiā'wad, bet. the Kachh and Cambay'; Kachh, S. of Sindh; Diu Head, S. Kathiawad; C. Comorin', the southernmost point of Hindustan; Dundra Head, S. of Ceylon; C. Negrais, S. of Pegu.

Islands.—Ceylon', S. of the Dakhan; Manar' and Rameshwaram', bet. Ceylon and the Dakhan; Lac'cadives, 150 m. W. of the Dakhan; Mal'dives, 200 m. S.W. of C. Comorin; Mergui' Archipelago, W. of Tenasserim; Penang', or Prince of Wales I., in the Str. of Malacca; Andaman' and Nicobar' Is. 180 m. S.W. of Pegu'.

Ceylon, about 60 miles from the continent, has been a dependency of Great Britain since 1815. The area is estimated at 23,310 square miles, and the population at 1,500,000. The island is pear-shaped, well watered, and highly fertile: it is mountainous in the south, where Pedrotallagalla, its highest summit, rises to the height of 8280 feet. Ceylon contains a greater abundance of precious stones than any other country in the world; and iron, manganese, plumbago, nitre, and salt, are plentiful. The climate is very hot and moist, and the vegetation highly luxuriant. The pearl-fishery on the N.W. coast, formerly the most valuable in the world, after being abandoned, has been resumed. The inhabitants profess the Buddhist religion, while the languages spoken are the Tam'li and Cingalese'. *Manaar* and *Rameshwaram* form a part of Adam's Bridge—a ridge of sandbanks which almost completely obstructs the channel between Ceylon and the continent. In the Hindoo mythology it figures as the route by which the demi-god Ram invaded Ceylon. The *Laccadives* consist of seventeen small islands of coral formation belonging to Britain. The *Maldives* are governed by a Sultan, who is tributary to the British. The *Andaman* and *Nicobar* groups came into our possession very recently: the former contains a penal settlement for India.

Gulfs and Straits.—G. of Kachh, bet. Kachh and Gujarat; Rān of Kachh, N.E. of Kachh; G. of Cambay', E. of the Peninsula of Kathiawad; G. of Manar' and Palk Str., bet. Ceylon and the Dakhan; G. of Martaban', S. of Pegu.

Mountain Systems.—Northern India contains the Himalay'a, the loftiest elevations on the earth's surface (see under "Asia"). The mountains of Southern India, or of the Dakhan, consist of the following ranges:—

1. The *Aravul'i Mountains*, in Rajputana, form the western wall of the plateau of Mal'wa, and separate the basins of the Ganges and lower Indus; Mount Abu, the highest summit, attains an elevation of 5000 feet.
2. The *Vindhya Hills*, in Gwalior, Indur, and Bhopal, 2600 feet, form the S. wall of the plateau, and separate the Jamna from the Nerbudda.
3. The *Saupū'ra Hills*, 2500 feet, between

Indur and Khandesh, separate the basis of the Nerbudda and Tapti. 4. The *Western Ghats*, extending for about 1000 miles along the Konkani and Malabar coasts, form the watershed between the Arabian Sea and Bay of Bengal; Mount Benarson, the highest summit, 7000 feet. The *Nilgiris*, S. of Maisur, connect the Western with the Eastern Ghats, and form the southern wall of the plateau of Maisur; highest summit, Dodabetta, 8760 feet. 6. The Eastern Ghats on the Koromandel coast, form the eastern margin of the plateau of the Dakhan; average elevation, 1500 feet.

Table of Rivers and Towns, see under "Further India."

Lakes.—*Wular*, in Kashmir; *Rawan* and *Mansarowar*, at the sources of the Satlej; *Pulicat*, on the coast of the Karnatak; *Chilka*, on the Orisa coast; *Sambhur*, in Rajputana, yields great quantities of salt; the *Ran of Kachh*, 6000 square miles, is, in the dry season, a barren, sandy desert.

Climate.—The elevated regions of Northern India enjoy a temperate climate; but in the central and southern regions the heat is very great. Here the year is divided into three seasons—the hot, the rainy, and the temperate.

The *hot season* commences in March and continues till the beginning of June. The great *rainy season* succeeds the hot, and lasts, with occasional intermissions, till October. The vapours borne by the S.W. monsoon are condensed on the Western Ghats, and the rain falls in torrents along the west coast. At Bombay 16 inches of rain have been known to fall in a single day; and at Mahabuleswar, a sanatorium on the Western Ghats, near Sattara, the fall is 254 inches in the year, of which 227 fall during the four monsoon months. A smaller monsoon from the N.E. succeeds that from the S.W., and is the cause of the principal rains that fall on the E. coast of the peninsula. The *temperate season* extends from October till the end of February. The mean temperature of the year ranges from 66° to 83° Fahr. Sindh, with the rest of the lower basin of the Indus, is nearly destitute of rain. The valley of the Ganges resembles Great Britain in respect to the quantity of moisture deposited. Along the Brahmaputra the fall of rain is prodigious; at Chirra Punji, among the Khasia hills, the annual fall is ascertained to be 610 inches!

Products.—The principal minerals are iron, tin, copper, gold, and diamonds. Coal also is found in many places, as Bengal Proper, Sagar and Nerbudda territory, Silhet, Asam, and Arakan. Salt is found in Rajputana and the Panjab. The iron of the Karnatak is wrought with great skill. Diamonds are found principally at Punnah in Bandalkhand, and at Sambalpur; and precious stones of great beauty and variety in many places.

The whole of Hindustan, south of the Himalaya, is unrivalled for the richness of its vegetation. Tropical plants are abundant, while the extra-tropical disappear; the trees are never destitute of leaves, and the number of arborescent plants is very great; the flowers are large and splendid, and there are many climbing and parasitical plants. The principal trees are the teak, which is reckoned superior to oak for shipbuilding; the cocoa-nut, every portion of which is rendered available to the wants of man; the bamboo, largely employed in scaffolding; the banyan, tamarind, mango, the palmyra and other palms. The cultivated plants are rice, sago, millet, cocoa-nut, tamarind, mango, ginger, cinnamon, peppers, indigo, cotton, tea (on the Upper Ganges in Asam), coffee, bananas, guava, orange, sugar-cane, and pulses. Opium is largely produced in Asam and the south side of the Ganges; the production of it is a Government monopoly, affording a revenue of £7,000,000 annually. The number of flowering plants is reckoned at 6954. The forests contain a variety of wild animals, the most remarkable of which are the elephant, rhinoceros, wild buffalo, and bear. Tigers, panthers, leopards, wild-boars, hyenas, wolves, and jackals, pervade both forest and jungle. Lions are met with only in particular localities, especially in Raj-

putana and Gujarat. Other wild animals are the deer, antelope, and monkey. Crocodiles, serpents, and other reptiles are very numerous, amounting in all to 179 species; while there are 450 species of birds of every variety of plumage.

Ethnography.—About six-sevenths of the enormous population of India are Hindus; the remainder belong to various races, including 10,000,000 Arabs and Persians, several millions of Afghans, chiefly located in the North-West Provinces and professing the Mohammedan religion, and 156,000 Europeans, chiefly British.

LANGUAGES.—Upwards of thirty distinct languages, embracing a great number of dialects, are spoken in India. These are resolvable into three main divisions:—1. Those derived immediately from the Sanscrit, the ancient language of the Brahmins, in which their sacred books are written. These are spoken by the Hindus proper of Northern India, and comprise the *Bengalî*, in the Lower Provinces, and the *Hindustânî*, spoken by the Mussulmans in every part of India, and now adopted by the Indian Government as the general medium of communication with the natives: it is the language of official documents and courts of justice, and by far the most useful to foreigners visiting India, whether in an official or commercial capacity. 2. Languages of the Dakhan.—These, in common with the foregoing, were long considered as the immediate descendants of the Sanscrit; but after closer investigation they are now generally regarded as the remnants of some ancient tongue, which at a very remote period prevailed over the whole peninsula. The most important of these are the *Telîngâ* or *Telugû*, the softest and most polished of the languages of Southern India, and containing the greatest portion of Sanscrit words, which, however, form no part of its basis; and the *Tam'ûl*, spoken in the entire S.E. portion of the peninsula, usually considered the type, or generic form, around which all the other languages of Southern India arrange themselves, as it possesses fewer affinities with the languages of Sanscritic origin than any other dialect of the Dakhan. 3. The languages of the barbarous unconquered tribes of the mountains.—These remain, hitherto, rude and unwritten; but so far as they have been examined they more resemble the second than the first group. Several curious instances of affinity have been traced between some of them and the Mongolian of Central Asia; and little doubt remains that the wild tribes speaking them belong to the true aborigines of the country, and are quite distinct from the Hindus of Northern India.

RELIGION.—The principal forms of religious belief prevailing in India and adjacent territories are Hindûism, Bôd'dhism, Moham'medanism, and Christianity. *Hindûism* is the religion of nine-tenths of the whole population of India Proper, and thus numbers among its votaries at least 130,000,000 of people. The Brahmins entered India from the W. side of the Indus, about a.c. 1100, and speedily subdued the former inhabitants, whom they compelled to embrace the religion of the conquerors, which consists of a variety of the most degrading superstitions and idolatrous rites. Brahma, Vishnu, and Siva, are the three persons of the Hindu trinity, and the principal objects of worship. *Buddhism*, at one time the predominant religion of the country, is now professed only in Bhotan, Ceylon, and Arakan. Buddha, its founder, regarded by the Brahmins as one of the incarnations of Vishnu, appeared as the reformer of Brahminism, about 600 a.c. The province of Behar appears to have been his native place. So far as his influence extended, he abolished caste, reformed the creed, and changed many of the religious observances of Brahminism. A bloody and long-continued war arose between his followers and the Brahmins; but the latter ultimately prevailed, and expelled the Buddhists to Ceylon, Further India, and other countries, about the beginning of the sixth century of our era (see under "China"). *Mohammedanism* embraces about 25,000,000 of the population, principally Afghans and Arabs, who are most numerous in the Panjab, Kashmir, the North-West Provinces, and parts of the Dakhan. The Arabic language is here, as everywhere else, the depository of the Mohammedan faith. The Mohammedan invasion of India commenced in the eleventh and was completed in the fifteenth century, but most of the Mohammedans now in that country have descended from a Hindu stock. *Christianity* was introduced into India in early times, since which there have been Syrian Christians in the S.W. of the country. The Portuguese established missions on the W. coast in the sixteenth century. In the seventeenth century

the Reformed religion was introduced by the Dutch, but with little success. In 1793 the Baptist Missionary Society sent out its first agents to Bengal (Carey and Thomas), and, soon after, several other societies followed their example. The religion of Christ is gradually undermining the hoary idolatries of India. Already the fields are in many places ripe for the sickle—"The harvest truly is great, but the labourers are few: pray ye therefore the Lord of the harvest, that he would send forth labourers into his harvest."

EDUCATION.—The great body of the people are sunk in the deepest ignorance. Some of the higher classes exhibit an easy epistolary style, though most of them can only read and sign their names. The few who advance beyond reading and ciphering study only the native sacred books, and hence their views are very limited and erroneous. The female sex is everywhere kept in a state of savage ignorance, as also the pariahs or people of no caste. The Indian Government has, for some years past, devoted considerable attention to the education of the natives, by establishing schools and colleges in many of the large towns. The English language is taught in all the Government schools, as well as most other branches of a sound popular education. The natives of all classes exhibit the greatest eagerness to avail themselves of a good English education for their children; and some of the colleges and schools have already produced accomplished scholars. Unfortunately, however, for the highest success of the Government seminaries, the Bible is systematically excluded, though ready access is accorded to the sacred books of the natives.

Government and Finance.—In the numerous native states, whether Independent or Protected, the government is invariably a pure despotism—the people being everywhere crushed to the earth by their rapacious and unprincipled sovereigns. The relation of these to the British Government is indicated above, under "Political Divisions." Since 1859, the government of British India is vested in a Governor-General and Council, who reside at Calcutta, and a Secretary of State for India, with a Council of fifteen members, in London.

The administration was previously in the hands of a body of merchants, called the East India Company, but subject to the supervision of the British Parliament, through the medium of the Board of Control, whose President was a Cabinet Minister. The East India Company was incorporated by Queen Elizabeth in 1600. The Mogul emperor gave them permission to establish a factory at Surat in 1611; their first establishment at Madras was formed in 1648; and Fort-William, at Calcutta, was erected in 1699. From that time, partly by treaty and partly by conquest, their authority had extended over the greater part of the peninsula. But the expiry of their charter in 1858, the lamentable events of the recent formidable insurrection, and other causes, have induced the British Government to take the immediate superintendence of their vast possessions in India into their own hands. The total armed force in India, previous to the rebellion of 1857, amounted to 729,457 men—including British of all arms, 289,457, of whom 202,849 were native sepoys. Almost the whole Bengal native army, which numbered 97,511 soldiers, joined in the mutiny of 1857. In 1870, the number of British soldiers serving in India was 59,487. The revenue in the same year amounted to £52,242,000, the expenditure to £56,184,000, and the public debt to £108,186,000.

COMMERCE.—The commerce of India, long stagnant, is now rapidly increasing, though the resources of the country still remain, for the most part, undeveloped. Restrictions which fettered commerce have been gradually removed, and India now enjoys free trade. The total value of the exports for 1870 amounted to £54,000,000, of which £25,000,000 worth were sent to the United Kingdom. The value of the imports for the same year was £47,000,000, of which nearly a half came from Britain. The chief exports consist of opium to China and Japan; raw cotton, indigo, jute, silk, tea, and rice to the United Kingdom; indigo, silk, tea, to France; and silk and saltpetre to America. The principal articles of British produce imported into India are cotton goods and yarn, iron, and copper. The cultivation of the cinchona plant (Peruvian bark) is succeeding admirably on the high grounds; coffee of good quality on the Nilgries; and tea is extensively produced on the upper Ganges and in Asam.

INLAND COMMUNICATION is still very defective, the roads being usually mere tracks, scarcely passable by wheeled carriages, except in the neighbourhood of

Calcutta and some other principal cities, where excellent roads have been recently constructed by the Government. Other great public works are also in progress, embracing a series of magnificent canals (one of which, the Ganges Canal, from Haridwar, by Mirat, to Allyghur, is perhaps the largest work of the kind in the world, having, with its branches, a total length of 810 miles), and an extensive system of railways connecting the several presidency seats: in 1870, there were 4283 miles open for traffic.

FURTHER INDIA.

Boundaries.—N., China Proper and Tibet; W., India and the Bay of Bengal; S. and E., the Chinese Sea. Lat. $1^{\circ} 22' - 27^{\circ} \text{ N.}$; lon. $91^{\circ} 45' - 109^{\circ} \text{ E.}$

Bangkok, capital of Siam, near the central parallel, is in the same latitude as San Salvador, Cape Verd, Lake Tchad, Mocha, and Madras.

Area and Population.—Including the British possessions on the W. coast, the area is estimated at 889,100 square miles, and the population at 24,645,000. This population is considerably less than that of the British Isles, though the area is seven times greater. The British possessions, equal in size to Great Britain, do not equal Scotland in population.

Surface and Mountains.—The country has been very imperfectly explored, but its leading characteristic is a series of mountain-ranges of unknown elevation, running parallel with the meridians, and enclosing between them long narrow valleys, watered by majestic rivers, the principal of which are the Irawadi, Sitang, Saluen, Meinam, Me-kong, and Tonquin.

Political Divisions.—Further India embraces numerous independent states, the principal of which are Burma, Laos, Siam, and Anam. The British have obtained possession of a large section of Burma; the French, of Cambodia and Lower Cochin-China, or the southern portions of Siam and Anam; while Laos and the Maláý peninsula are subdivided into a number of half-independent states. For the towns in the British territories, see under "Hindustan."

BURMA.—Mandelay 3 Monchobo 4, Ava 80, Amarapura 30 (Irawadi).

LAOS.—Lanchang (Me-kong), Changmai 25 (Meinam).

SIAM.—Bangkok 300, Yuthia or Siam 100 (Meinam), Tringanu 60, Cantuburi 30, Phunga 20 (Strait of Malacca).

MALAYA.—Perak n. (Strait of Malacca), Johore n., Pahang (Chinese Sea).

ANAM.—Hué 100, Fai-fó 15 (Chinese Sea), Kesho 100 (Tonquin).

FRENCH POSSESSIONS.—Saigon 180 n., Udong 12 (Me-kong).

Descriptive Notes.—*Monchobo*, the former capital of Independent Burmah, is a small town near the centre of the kingdom. *Ava*, once the capital, was destroyed by an earthquake in 1839, which also reduced *Amarapura* to ruins. *Lanchang*, capital of Southern Laos, is a large populous city. *Changmai*, capital of Middle Laos, is only known by name to Europeans. *Bangkok*, a very large and populous city near the mouth of the Meinam, is the seat of a large export and import trade. *Yuthia*, the former capital, was nearly destroyed by the Burmese in 1767. *Cantuburi*, a fortified seaport town, with a great export trade, and with mines of precious stones in the vicinity. *Perak*, capital of a small state in Malaya, producing tin, rice, and ratana. *Huá*, capital of the empire of Anam, is

without a parallel in the East for the strength and magnitude of its fortifications, which are constructed in the European style. *Kesho*, capital of province Tonquin, is a large commercial city, on the Tonquin river. *Saigon*, capital of the French possessions in Cochinchina, near one of the mouths of the Me-kong river, and in the centre of a vast, fertile district, which, by the treaty of 1863, the King of Cambodia ceded to France. *Udong*, capital of Cambodia, and farther up the Me-kong, the entire basin of which is now more or less under French influence.

Capes, Islands, Gulfs, and Straits.—See under “Asia.”

Climate.—The climate, though hot and moist, is more salubrious for European constitutions than that of Hindostan. The mean annual temperature ranges from 77° to 79° Fahr. The S.W. monsoon, lasting from May till the middle of September, is the rainy season in the W., where the annual fall of rain is from 150 to 200 inches. The N.E. monsoon, lasting from October to April, brings rain to the E. coast. The climate of Malaya is tropical, but the solar heat is tempered by sea-breezes.

Products.—The principal minerals are gold, silver, copper, lead, tin, numerous precious stones, coal, nitre, sulphur, and petroleum or mineral oil, which is found in vast quantities near Patanago.

Forests are numerous, and yield much valuable timber, among which are many woods used as dyes and perfumes. Agriculture is in a very backward state, but rice, cotton, indigo, tobacco, and the sugar-cane, are extensively grown. Wild animals are very numerous, including the elephant, rhinoceros, tiger, leopard, buffalo, bear, deer, antelope, with several species of baboons and monkeys; the peacock, parrot, and aquatic birds of all kinds. Alligators infest the large rivers, and the hooded snake, with several other noxious reptiles, the land.

Ethnography.—With the exception of Malacca, nearly the whole of this extensive region is inhabited by nations of Mongolian origin. In physical aspect they greatly resemble the Chinese, though in certain districts they present a near affinity to the Hindoos. The Burmese, however, resemble the Malays, though in appearance and language they approximate more closely than the latter to the inhabitants of Hindostan.

With the exception of the Malayan, the *Languages* are all of the monosyllabic class, and allied to the Chinese. The *Religion* of the entire peninsula is Buddhism, except in Malaya, where Mohammedanism prevails, and in parts of Anam, where the higher classes are disciples of Confucius. The most abject superstitions prevail everywhere, and the grossest idolatries are practised; but during the present century Christianity has made remarkable progress, as the result of the labours of Judson and other devoted missionaries.

Government, &c.—In these countries absolutism and tyranny have been carried to the highest extreme, and the most servile submission is exacted by the monarchs from all classes of their subjects. In Burmah and Siam the people are prohibited, under pain of death, from pronouncing the emperor's name. The laws are sanguinary, and the punishments awarded are marked by the greatest cruelty. With the exception of the priests and public functionaries, every male inhabitant is obliged to devote not less than every third year of his life to the public service.

Commerce.—In a commercial point of view, Siam is the most important Indo-Chinese state, and carries on an extensive intercourse with China, Java, and Singapur. There are few roads in the country, but a navigable canal connects the Meinam and Me-kong. The late king, who died in 1851, was an enlightened monarch, who trained his troops in the European manner, made canals and roads, built ships, introduced steamers, encouraged arts and commerce, and established printing from types—previously unknown in Siam. The commercial transactions

the Burmese are individually on a small scale, though the aggregate is considerable. Principal exports—raw cotton, teak-wood, catechu, stick-lac, bees'-wax, elephants' teeth, gold, and silver. The Burmese are celebrated for bell-casting and gilding, dyeing silk and other fabrics. At Mengoon, near Ava, is a bell which is said to weigh 500,000 lb. In Anam the emperor monopolises all the foreign trade, which is conducted for the most part with Canton, Batavia, and British India.

Table of Rivers and Towns.—The following table, which is in continuation of that given under Biluchistan, embraces all the most important rivers and towns of Hindustan and Further India. The rivers belong to three great basins—viz., those of the Arabian Sea, Bay of Bengal, and the Chinese Sea.

Basins inclined to the Arabian Sea.

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Indus,	Karachi, n., Thattha, HAIDARABAD, Shik- arpur, Iskardo.	Logur,	Ghuznee, n.
Gundava,	Gundava, n., KELAT.	G. of Cutch,	BHUJ, n.
Nari,	Dadur.	Luny,	JOONPUR, n., Pali, Ajmir.
Satlaj, l,	BRAWULPUR, Ludhi- ana, SIRHIND, n., Ambala.	Suraswatty, ...	Puttun, Pahlunpur.
Chenab,	Multan.	G. of Cambay, ...	Cambay.
Ravi, l,	LAHUR, Amritsar, n.	Sabarmati,	Ahmadabad.
Jehlum, ...	KASHMIR.	Mahi,	BARODA.
Bias,	Jallundur, n.	Nerbudda,	Gurrah, Jabalpur, Mundiah.
Kabul,	Peshawar, Jelalabad, KABUL, Istalif, n.	Tapti,	Surat.
Kamah,	KANDEISH, n., Chit- tral.	Konkan Shore, ..	BOMBAY, PANJIM, Goa.
		Kanara Coast, ...	Mangalur.
		Malabar Coast, ..	Kalikut, Cochin, TRI- VANDERAM.

Basins inclined to Bay of Bengal.

Kaveri,	Tranquebar, Tanjur, Trichinapalli, Serin- gapatam, MYSUR.	Ganges,	CALCUTTA, Chandrna- gar, Kalna, Plassy, Boglipur, PATNA, BENARES, Mirza- pur, ALLAHABAD, Kanhpur, Farruck- habad, Haridwar.
Punnair,	Bengalur.	Damuda,	Bardhwan.
Coromandel Co., ..	PONDICHERI, MADRAS.	Atri, l,	SIKHM.
Palar,	Arcot, Vellur.	Cosa,	Purneah.
Krishna,	Nizampatnam, n., Ma- chhliapatnam, KOLA- PUR.	Bishnmati, l,	Patan, KHATMANDU.
Musi, l,	HAIDARABAD, Sikan- darabad.	Fulgo,	Behar, Gaya.
Tungabhadro, ...	Karnul.	Sone,	Suhagpur.
Hinderi,	Ballari.	Murar,	SIRGUJAH.
Bilmah, l,	Punderpur.	Ghagra, l,	Oudh, Faizabad.
Muta-Mula,	Puna.	Rapti, l,	Gorakhpur.
Godaveri,	Rajamahendri, Nasik.	Gumti, l,	LUCKNOW.
Weingunga, l,	Seuni.	Tons,	REWAH, n.
Kanhan,	Kamptt.	Jamna,	ALLAHABAD, AORA, BHURTUPUR, n., Ma- tra, DELHI.
Nag,	NAGPUR.	Cane,	Banda, SAGAR.
Manjara,	Beder.	Betwa,	Datiya, Jhansi, BHO- PAL.
Purna, l,	Assaye.		
Dudhna,	Aurangabad.		
Nglandi,	Shikacolam.		
Mahanadi,	Puri, KATAK, SAM- BALPUR.		

Basins inclined to Bay of Bengal (continued).

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Sindh,	GWALIOR, n.	Brahmaputra, }	Shigatze, Teshu-
Chambal, ..	BUNDI, n, KOTA, DHAR.	continued, ... }	Lombu.
Bunas, l ..	JAYPUR.	Nilkomar,	KUSH-BEHAR.
Sipra,	DEWAS, Ujjain, IN-DUR.	Godada,	TASISUDON.
Chitang,	JEHIND.	Chittagong Co., ..	CHITTAGONG.
Kali Nadi,	MIRAT.	Koladain,	Arakhan.
Ramgunga, l ..	BARKILLY; Morada-bad, Rampur, AL-MORA, n.	Irawadi,	RANGUN, Prome, Ava, MONCHOBO, n., Am-arapura.
Gurrah, l ..	Shahjahanpur, Pilibhit.	Pegu, l	PEGU.
Brahmaputra, ...	DACCA, n, LASSA, n.	Kongbo,	MUNIPUR.
		Sitang,	Tongo.
		Saluen,	MULMEIN.
		Str. of Malacca, ..	Phunga, George Town, Malacca, Singapur.

Basins inclined to Chinese Sea.

E. Co. of Malacca, Johore, Pahang, Trin-ganu.	Me-kong, Udong, LANCHANG, Yoong-tchang-foo.
G. of Siam, Ligor, Mekhlong, Can-tuburi.	Saigon, SAIGON.
Meinam, B A N K O K, Yuthia, Nan-rung, n, Chang-mai.	E. Co. of Anam, Fai-foo, Hué.
	Tonquin, Keaho or Ca-choa, Ling-nan, Yuen-kiang.

THE CHINESE EMPIRE.

Boundaries.—N., Siberia; W., Turkestan and Kashmir; S., Hindustan and Further India; E., the Pacific Ocean. It extends from lat. 18° to 53° N., and from lon. 77° to 136° E.

Pekin, the capital of the empire, is in the same latitude with Madrid, Naples, Constantinople, Bokhara, and New York. The area is estimated at 4,423,000 square miles, and the population at 474,000,000. This gigantic empire, therefore, embraces within its area one-third part of the Asiatic continent, or one-twelfth of the land surface of the globe, and contains two men out of every five of the human race. It is one-fourth larger than the continent of Europe, and contains 1½ times its population. Its principal divisions now are China Proper, Mongolia, and Tibet. By the recent treaty with Russia, the entire territory north of the Amoor and Argun has been ceded to Russia; while, in 1864, Eastern Turkestan became independent.

CHINA PROPER.

Boundaries.—N., Mongolia; W., Tibet and Burmah; S., Laos, Anam, and the Chinese Sea; E., the Pacific Ocean. Lat. 18°—42° N., lon. 98°—122° E.

Shanghai, on the central parallel, is nearly in the same latitude with Morocco, Alexandria, Jerusalem, Lahur, and the head of the Gulf of California.

Area and Population.—The estimated area is 1,560,000 square miles, and the population 456,000,000, or 293 per square mile. The greatest length is 1600 miles, while the breadth varies from 900 to 1300 miles. It is twelve times the area of the British Isles; considerably larger than Hindustan; it contains twice its number of people, or more than

one-third of the whole human race. Incredible as this density of population may appear, it does not greatly exceed that of the British Isles, and is greatly less than that of Belgium.

Surface and Mountains.—China consists of an elevated region in the N.; of a great alluvial plain in the centre, celebrated for its fertility and the unrivalled density of its population, and consisting of the lower basins of the Yang-tse-kiang and Hoang-ho, which rank among the largest rivers of Asia; and in the S., of a region alternately undulating and interspersed with broad valleys and lofty mountains, which increase in elevation as they proceed westward. The principal mountain-chain, the Yun-ling, between China and Tibet, attains an elevation of 12,000 feet; the Nan-ling, 8000 feet, separates the basins of the Yang-tse-kiang and Canton river; the Pe-ling separates the upper basins of the Yang-tse-kiang and Hoang-ho; the In-shan and Kihan-shan form the northern boundary.

Political Divisions.—China Proper is divided into eighteen provinces, each of which on an average is considerably larger than Great Britain.

SIX EASTERN OR MARITIME PROVINCES.

QUANG-TUNG.—Canton 1000, Victoria 30, Macao 52, Chow-king (Choo), Lien-chow (S. coast), Chow-choo (Han), Swatow (E. coast), Kien-chow 100 (I. Hainan).

FO-KIEN.—Foo-chow 1000, Yen-ping (Min), Amoy 250, Chang-chow 800 n. (Fo-kien Chan.), Tai-wan (I. Formosa).

CHE-KIANG.—Hang-chow 700 (Tsien-long), Wan-chow n., Tai-chow n., Ning-po 200 n. (coast).

KIANG-SU.—Nankin 500 (Yang-tse), Shanghai 135 (Woo-sung), Soochow 1500 (Gt. Canal), Hwai-ngan (Hoang-ho).

SHAN-TUNG.—Tsi-nan (Ta-tsin), Yen-chow n., Tong-chang (Gt. Canal), Teng-chow (G. Pe-chi-li).

CHI-LI.—PEKING or Peking 2000 n. (Pei-ho), Tien-tsin (Eu-ho).

SIX CENTRAL PROVINCES.

SHAN-SE.—Tai-yuen, Pin-yang, Fuen-chow (Fuen-ho).

HO-NAN.—Kai-fong 1000, Quei-te n., Hoai-King (Hoang-ho).

NGAN-HWL.—Ngan-king, Tai-ping, Chee-chow (Yang-tse).

KIANG-SI.—Nan-chang (Kan), Kin-te-ching 1000 (Po).

HOO-PE.—Wo-chang, Han-kow (Yang-tse), Siang-yang (Han).

HOO-NAN.—Chang-sha, Heng-chow, Yong-chow n. (Heng).

SIX WESTERN PROVINCES.

QUANG-SI.—Quei-ling (Quei), Sin-chow (Choo), Chin-ngan (Ngo-yu).

YUN-NAN.—Yun-nan (Tien-chi), Li-kiang (Yang-tse), Lin-ngan, Yuen-kiang (Tonquin), Yoong-chang (Me-kong).

QUEI-CHOW.—Quei-yang n., Se-nan (Oo), Chin-yuen, Ping-yoo (Yuen).

SE-CHUEN.—Ching-too, Sioo-chow (Min), Poo-kiang (Kia-ling).

KAN-SU.—Lan-chow (Hoang-ho), Koong-chang (Wei-ho).

SHEN-SE.—Si-ngan (Wei-ho), Han-chong (Han).

Descriptive Notes.—**MARITIME PROVINCES:** *Canton*, at the head of the Bocca Tigris, or estuary of the Canton river, is one of the five cities open to foreigners, and the principal entrepôt of commerce in the empire: its principal exports are tea, silk, precious metals, cassia, sugar, and porcelain; and the principal article imported is opium, from Hindostan—the sale of which, though illegal, is tacitly permitted. *Victoria* or *Hong-Kong*, on an island of same name, became a British possession by virtue of a treaty with the Chinese in 1843: it has numerous store-houses and European dwellings, and steam communication with England. *Macao*

has belonged to the Portuguese since 1586. It is well fortified; but the harbour does not admit large ships, and there is no communication with the interior of the country: here, for a time, resided Camoens, the Portuguese poet, and here he is said to have composed the '*Lusiad*.' *Swa-tow*, a flourishing seaport, midway between Hong-Kong and Amoy, now open to British commerce. *Kien-chow*, capital of the island Hainan, has extensive trade with Macao, Assam, Siam, and Singapore. *Foo-chow*, a very populous city, and one of the five opened to European commerce by the treaty of Nankin. Large quantities of cotton goods and blue cloth are here manufactured, and 500 ovens are constantly employed in the production of porcelain ware. The black-tea district is only 70 miles distant. *Amoy* is one of the five cities open to foreigners, and has great trade: manufactures of porcelain, grass-cloths, paper, candy-sugar, and congou tea, form the principal articles of export. *Chang-chow*, a very large and populous city, 86 miles S.W. of Amoy, its seaport, is the great centre of the silk-manufacture of the province. *Hang-chow*, at the southern terminus of the Imperial Canal, is the famous *Kinsai* of Marco Polo, and the capital, in his time, of Southern China; it has long been noted for its silk manufactures. *Ningpo*, one of the five cities open to European trade, and regarded by the Chinese as one of the most beautiful cities in the Celestial Empire, is a place of great trade. *Nankin* ("Court of the South"), capital of province Kiang-su, and at one time of the entire empire, is now greatly declined, though still one of the greatest seats of manufacture in China; its *nanken* cloths, silks, and paper, are reckoned superior to those made anywhere else, and it is the centre of a very extensive commerce. *Shanghai*, the farthest north of the five ports open to Europeans, is an important entrepôt of the commerce between the N. and S. provinces. *Soo-chow*, a very large city, and one of the most flourishing and populous in the empire. *Tsi-nan* is venerated as the residence of a former dynasty of Chinese sovereigns. PEKING ("Northern Capital"), the metropolis of China since the thirteenth century, when Kublai Khan made it his residence instead of Nankin, the former capital, is situated on a sandy plain 100 miles from the sea and 60 miles S. of the Great Wall: with the exception of Jeddo, it is the only city in the world that rivals London in population, which is variously estimated at from two to three millions. The description of the city given by Marco Polo, who visited it in 1271, is in many respects applicable at the present day. *Tien-tsin*, the port of Pekin, is noted for the treaty of 1858, between the Chinese and British.

CENTRAL PROVINCES.—*Tai-yuen*, a large and populous city, the occasional residence of the sovereigns of the last reigning dynasty, has manufactures of fine porcelain, felt carpets, and iron-ware. *Kai-fong* is noted as the principal seat of the Jews in China (see under "Religion"). *Nan-chang*, a very populous city, and the centre of the porcelain manufacture, has a great trade in China-ware, silks, furs, and idols. *Kin-te-ching*, with a million inhabitants, contains the largest porcelain manufactory in the world: five hundred furnaces are constantly at work, but no foreigner has ever been admitted within the walls, lest the secrets of the process should be revealed. *Wo-chang*, in one of the most fertile districts of the empire, is one of the largest of the inland towns, and carries on an extensive commerce.

WESTERN PROVINCES.—*Quei-ling*, or *Kwi-lin*, in a fine valley watered by the Quei-kiang, is said to be fortified in the European style. *Yun-nan*, on the least mountainous part of the table-land, is a considerable place, and carries on an active trade with the Burman empire. *Kwei-yang*, a comparatively small town, with mines of gold, silver, vermillion, and iron in the vicinity. *Ching-too*, a populous city, adorned with fine edifices, and the seat of an extensive trade, was at one time an imperial residence, but was ruined by the Tartars in 1646. *Lan-chow* carries on a brisk trade with the tribes inhabiting the table-land to the N. and W. of it. *Si-ngan*, a large and populous city, which is often compared with Pekin itself; it was at one time the metropolis of the empire, is strongly fortified, and carries on a considerable trade.

Islands.—Hainan, at the mouth of the Gulf of Tonquin; Macao and Hong-Kong, in the Bocca Tigris, or estuary of the Canton river; Formosa and Amoy, E. of province Fo-kien.

Lakes.—*Tai-hou* or Great Lake, in Kiang-su, drained by the *Woo-sung*; *Po-yang* and *Toong-ting*, in the lower basin of the *Yang-tse-kiang*.

Climate.—The climate is eulogised as one of the finest in the world; but it is much colder in winter and warmer in summer than corresponding latitudes in Western Europe. In the southern provinces the winters are intensely dry and cold, and snow sometimes falls at Canton, though within the tropics. March and April bring fogs and a mild temperature; much rain falls in May; and from July to September there is intense heat, with hurricanes, typhoons, and thunderstorms. Mean annual temperature at Pekin, 54°, summer 81°, winter 26.7°.

Products.—The precious metals occur in small quantities, but there are rich mines of iron, lead, copper, zinc, and quicksilver; and perhaps the only metal which the country is known not to possess is platinum. Coal exists in vast abundance; and, more important than all, inexhaustible beds of kaolin or porcelain earth of the finest quality. The early possession of this substance, and the great skill of the inhabitants in working it, has given the name of China to the beautiful ware which so long monopolised the markets of Europe.

The vegetation of the southern provinces resembles that of Hindostan and Further India, while Northern China, together with the eastern part of Chinese Tartary and Japan, occupy a middle position between the vegetation of Europe and that of North America, with a considerable affinity to the Indian flora. The most characteristic and valuable botanical product is the tea-plant, which, until recently, was almost peculiar to China. It is cultivated from Canton northward to Nankin, and extends westward over the greater part of the basin of the Yang-tse-kiang. Among the cultivated grains rice is the staple product; and among the trees and shrubs most common in the fields and gardens are the sugar-cane, cotton, hemp, tobacco, rhubarb, indigo, and cinnamon. Olives, oranges, pine-apples, &c., are abundant, and the mulberry is extensively reared for the silk-worm, an insect which is probably indigenous to China. Most of the wild animals have long ago been extirpated; but the elephant, tiger, wild-cat, rhinoceros, and taptir still occur in the south-western provinces.

Ethnography.—The people belong to the Mongolian family of mankind. At a very early period the natives appear to have advanced to a considerable degree of civilisation, and to the practice of the arts of domestic life, especially those of printing, the invention of the mariner's compass, and the manufacture of silk and porcelain; but here they have paused, their government and institutions arresting the further progress of improvement.

LANGUAGE.—The Chinese language forms the principal member of the great monosyllabic family of tongues. This family is peculiar to the Mongol race, is confined to the S.E. angle of Asia, and comprises about fifty-three principal dialects, eighteen of which are spoken in China.—every province having a dialect peculiar to itself. The Chinese language, when written, is not phonetic, like the Indo-European and Shemitic tongues, but ideographic. Each written character represents a thought, an idea, and not a sound. There is therefore no alphabet, properly so called, but every different word has a distinct character to represent it. The same character or sign retains the same meaning all over China, but in every separate province the pronunciation given to it varies. Thus, a Bible printed in Chinese can be read and understood by every educated Chinaman, provided he has the volume before his eyes; but the inhabitant of one province cannot understand the inhabitant of any other when reading audibly in his presence.

RELIGION.—Various systems of religious belief prevail in China. 1. *Buddhism*, the religion of the great mass of the people in China Proper, Mongolia, Manchooia, and Tibet, the last-named country being its headquarters, and the seat of its most sacred lamas. 2. The system of the rationalists, which is the next in importance as respects the number of its votaries. 3. The doctrine of Confucius, which is adopted by the court and upper classes. Mohammedans are also numerous; while very recently a million of Jews were discovered, all residing in one city, speaking the Hebrew language, and practising their ancient religious rites.

Protestant missionaries have been settled in some of the maritime towns for the last fifty years—the total number of missionaries being at present from eighty to a hundred.

EDUCATION.—The Chinese Government liberally encourages elementary knowledge, making that the only channel to office, rank, and honour. Accordingly, the taste for letters is almost universally prevalent, and schools abound in every town and village; but little useful information is communicated, beyond the familiar arts of reading and writing. Every branch of science is stereotyped, and there are few civilised countries where real science is at a lower ebb. Their knowledge of mathematics and astronomy is very limited, and they have made but little progress in the fine arts. Their sculpture is only remarkable for its nice finish; their architecture is deficient in grandeur and elegance; the only objects they can paint well are those of inanimate nature; while, in drawing, they are wholly ignorant of perspective. Yet they have been the authors of what are justly considered in Europe as three of the most important inventions of modern times—the art of printing, the composition of gunpowder, and the magnetic compass. To these may be added two very remarkable manufactures, of which the Chinese were unquestionably the first inventors—those of silk and porcelain, in the latter of which they have never been surpassed.

Government, &c.—The form of government is in theory an absolute despotism, the emperor uniting in his own person the attributes of supreme magistrate and sovereign pontiff. The emperor is of the Mantchoo dynasty, and the great offices of state are usually held by Mantchoos. A civil war of the most formidable description, and characterised by the most revolting barbarities, has for several years been raging in all parts of the country.

The *Military Force* probably amounts to about 600,000 soldiers, including the troops stationed in the tributary provinces. The *Navy* consists of two fleets of war-junks, one for the sea, and another for the rivers; but the army and navy are in a state of extreme inefficiency, and are utterly powerless when opposed to European forces. Among the defences of the country must also be reckoned the Great Wall, constructed in the third century before the Christian era, as a barrier to the incursions of the Tartars. Commencing at a fort on the Gulf of Pechili, it extends westward along the northern frontier, over hill and dale, for 1250 miles, with a height varying from 15 feet on the mountains to 30 feet on the plains. It is a rampart of earth, broad enough at the top to admit of several horsemen passing each other; is faced with brick and stone, or strengthened at regular intervals by large square towers, with gates for the convenience of travellers; but it is now falling into decay, the gates are negligently guarded, and smugglers pass openly through its crumbling breaches.

Manufactures and Commerce.—The manufactures are of the most varied, and often of the most exquisite description. Their porcelain, silks, nankeens, embroidery, and lacquered ware, are unrivalled for their excellence.

The *Exports* consist mainly of tea, silks, nankeen, porcelain, lacquered ware, and articles of ivory. The principal *Imports* are opium from India; cotton yarn, cotton cloth, linens, woollens, beer, iron, steel, and glass, from Great Britain; cattle and raw silk from Turkestan; furs, sheep, and woollen goods from Russia, &c. The trade with Russia is principally conducted at Kiachta, on the Mongolian frontier, and with other countries at the five seaports, Canton, Amoy, Foo-choo, Ning-po, and Shanghai, opened by the treaty of Nankin in 1842. Recently large concessions have been made to Russia in the unfettered navigation of the Amoor, and in the cession of a large tract of territory between that river and the Yablonoi Mountains. The internal commerce is enormous; that of the eastern provinces is conducted chiefly by the Grand or Imperial Canal, which extends from Hangchow to the Eu-ho, being a distance of 700 miles. There are numerous other canals connecting the navigable rivers; and probably the tonnage belonging to the Chinese is little short of the combined tonnage of all other nations.

MONGOLIA.

Boundaries.—N., Siberia; W., Siberia and Turkestan; S., Tibet and China; E., Sea of Japan. Lat. 36°—56° N., lon. 76°—140° E.

Ourga, the capital of Mongolia, near the centre, is in the same latitude with Paris, Stuttgart, Vienna, Ekaterinoalav, and the northern shores of the Caspian Sea and Lake Superior.

Area and Population.—The area is loosely estimated at 2,200,000 square miles, or more than three-fourths the area of Europe. The population is very uncertain, but probably it is not more than 15,000,000, or about half that of the British Isles.

Surface.—This vast region, separated from Tibet by the Kuen-Lun, from China by the In-Shan, and from Siberia by the Thian Shan and Altai Mountains, and by the rivers Argun and Amoor, comprises the immense table-land of Central Asia—the most extensive plateau on the globe, and is occupied in its centre and west by the huge, rainless, and sandy desert of Gobi or Shamo, 1200 miles long, from 500 to 700 miles wide, and 3500 feet in elevation. The north of Mongolia is richly wooded; considerable tracts in Mantchooria and Eastern Turkestan are highly fertile, producing corn of all kinds, rice, cotton, and fruits, which, with cattle and various mineral and manufactured products, form the principal exports. The remainder is peopled by pastoral tribes, whose camps, like moving cities, are constantly passing from one place to another.

Divisions.—The principal subdivisions of Mongolia, with the chief towns in each, are the following:—

LEAO-TONG.—Moukden (Leao-ho).

COREA.—King-ki-tao (Kiang-ho), Ping-hai (E. coast).

MANTCHOOBIA.—Kirin-Oula (Soongari, *affl.* Amoor).

MONGOLIA.—Ourga 7 (Tula, *affl.* Selenga), Maimatchin (Selenga), Karakorum (Orkhon), Kobdo 10 n. (Lake Ike Aral), Dolonnor (Chan-tou).

EASTERN TURKESTAN* AND DZUNGARIA.—Yarkand 150 (Yarkand), Kashgar 16 (Kashgar), Khotan (Khotan), Ili or Guldja 70 (Ili).

Descriptive Notes.—*Moukden* was the residence of the Mantchoo sovereigns before they conquered China: it is now the residence of a Chinese viceroy. *King-ki-tao*, the residence of the sovereign of Corea, who is tributary to the Chinese emperor. *Kirin-Oula*, capital of Southern Mantchooria, is the residence of a Chinese viceroy, and the headquarters of the Chinese troops in the province. *Ourga*, the principal town belonging to the Khalkas tribe, is the seat of the deified Lama of the Mongols. *Maimatchin*, noted for being inhabited exclusively by males, forms, with Kiachta on the Siberian frontier, the entrepôt of the trade between China and Russia. *Karakorum* was formerly the capital of Genghis Khan, who was a native of the Khalkas country. *Dolonnor* is said to be of vast extent, carrying on great trade with Siberia: the inhabitants are noted for their skill in working iron and brass, while idols, bells, and other articles used in the Buddhist ceremonies are exported far and wide. *Yarkand*, the former capital of Chinese Turkestan, is a large and populous city, and the chief emporium of commerce between China and the countries beyond the western frontier. *Kashgar* was a city of great commercial importance before the Christian era, and still carries on an extensive trade with Bokhara in tea, porcelain, rhubarb, silk, &c. *Khotan*, a populous city, inhabited chiefly by Uzbeks, has manufactures of leather, silk fabrics, and paper.

Capes.—South Cape, S.W. of Corea; Cape Patience, E. of Saghalien.

Islands, Seas, Gulfs, Straits, and Lakes.—See under "Asia," p. 151.

Climate.—In so wide a region the climate must be highly varied, but,

* Independent since 1864.

in general, it is much colder in winter and warmer in summer than in corresponding latitudes of Western Europe. Owing to the great elevation of the surface, and the very moderate elevation of the mountain-ranges that form the northern frontier, scarcely a month in the year is exempted from frost and snow, while the variations of temperature are sudden and great. Rain is rare, except near the mountains, and the vegetation is scanty.

Products.—The minerals, botany, and zoology are almost wholly unknown. Gold, iron, tin, jade, jasper, and other precious stones are met with. Pines, fir, birch, ash, elm, and white poplar, grow in the mountains; as also red currants, wild peaches, and various shrubs. The cork-tree and the aspen are indigenous on both banks of the Amoor. Among wild animals may be mentioned the tiger, wolf, jackal, lynx, fox, antelope, argal, yak, in Chinese Turkestan; wild horses, camels, and asses in the stony steppes of the Lop desert; the Bactrian or two-humped camel, in the Thian Shan Mountains; and boars, bears, wolves, hares, foxes, sables, squirrels, &c., in the forests of Mongolia.

Ethnography.—This country has been for ages the domain of the Mongolian race—one of the great subdivisions of the human family; to it belonged Attila, Genghis Khan, Kublai Khan, Timur the Tartar, and those other mighty warriors, whose rapid conquests are compared by Gibbon to the primitive convulsions of nature, which have agitated and altered the surface of the globe. They are allied to the Turks and Chinese, and are subdivided into numerous tribes, the principal of which are the Mongolians Proper, Calmucks, Khalkas, and Mantchoos.

All the *Languages* spoken in Chinese Tartary belong to the Turanian or Finno-Tartarian family (see under "Asia"). The chief of them are the Mantchoorian, Mongolian, and Corean. The elemental principles of the first two are almost identical with the Tartar and Finnish. In the simplicity of their structure, and the total absence of all inflections, they approach nearer than any other class of languages to the monosyllabic type, while the Corean greatly resembles the Japanese. The *Religion* of Buddha prevails in Mantchooria and Mongolia; Buddhism and Mohammedanism in Chinese Turkestan (where are also found some Christians and Jews); and Buddhism and Confucianism in Corea.

TIBET, OR THIBET.

Boundaries.—N., Eastern Turkestan; W., Cashmere; S., the Himalaya and Burmah; and E., China Proper. Lat. 27°—36° N., lon. 78°—104° E.

Lassa, the capital, on the central meridian, is in the same latitude with Mogadore, Cairo, Bassorah, Mooltan, Shanghai, and New Orleans.

Area and Population.—The area is conjectured to be about 651,000 square miles, or more than five times the area of the British Isles. The population is probably about 10,000,000, or three times that of Scotland.

Surface.—A lofty table-land, from 15,000 to 16,000 feet in elevation, enclosed by stupendous mountain-chains, the loftiest on the globe, and giving origin to nearly all the great rivers of Southern Asia—as the Indus, Sutlej, Ganges, Brahmapootra, Me-kong, Yang-tse-kiang, and Hoang-Ho.

Divisions.—The portion subject to China is understood to comprise two provinces—viz., Eastern and Western Tibet—of which Lassa and Teshoo-Loomboo are respectively the capitals. Bultistan and Ladakh are now tributary to Cashmere.

TOWNS.—*LASSA* 24 n., Jiga-Gungar 100, Shigatse 100, Teshoo-Loomboo 20 n. (San-po), Tashigong, Gortopé (Indus), Chaprung (Sutlej), Bathan (Kin-sha or Upper Yang-tse).

Descriptive Notes.—*Lassa*, the capital of Tibet, and the sacred capital of all Buddhistic countries, is a fortified commercial town, containing a Chinese garrison, with numerous towers, bazaars, and temples; it is the residence of the Grand Lama, the pontifical sovereign of Tibet, who lives in a vast square temple, which, with its precincts, covers many acres, and has contiguous to it four celebrated monasteries, said to be inhabited by 4000 recluses. These monasteries are greatly resorted to by the Chinese and Mongols, as schools of the Buddhist religion and philosophy: the interior of the temple is filled with idols, treasure, and works of art; and there is perhaps no spot on the globe where so much gold is accumulated for superstitious purposes. *Teshoo-Loomboo*, the western capital, contains the palace of a lama and the residence of a Chinese functionary, whose duty is to watch the proceedings of the priests, who constitute the great bulk of the population.

Climate.—The climate is excessively dry, except from June to September, when heavy rains are frequent; but the cold, though severe, is not so great as might have been predicated.

From October to March the drought is intense; the trees wither; their leaves may be ground to powder between the fingers; planks and beams break, and the inhabitants cover the timbers of their houses with wet towels, in order to preserve them from the destructive effects of excessive dryness. The limit of perennial snow is higher on the Tibetan side of the Himalaya than on the Indian; the former varying in different places from 16,600 to 17,400 feet above the sea, while in the latter it descends sometimes to less than 15,000 feet. Barley comes to maturity on the N. side from 14,000 to 15,000 feet above the sea-level, and small bushes to 17,000 feet—being nearly 1800 feet higher than the limit of perpetual snow under the equator.

Products.—Tibet is extremely rich in minerals, especially in gold, which is found in lumps, veins, and in the sands of the rivers. Silver, mercury, native cinnabar, iron, and rock-salt, are obtained from mines; but the want of fuel is an insuperable obstacle to their successful operation—coal being unknown, and there being little or no wood in the country. Argot, or the dung of animals, pounded and mixed with earth, is the fuel chiefly used.

The vegetation is extremely scanty. Forest-trees are rare, but the cedar is found on the mountains, and several orchard-fruits in the valley of the Mouran around the capital. Very little wheat, and less rice, is cultivated; grey or black barley is the principal grain, and the chief article of diet. Among the animals may be mentioned the yak or grunting ox, musk-deer, wild-ox, goat, wild-cat, lynx, bear, badger, and the argal with horns of 100 lb. weight. The tiger, elephant, and other formidable animals of the southern slope of the Himalaya, are absent. All our domestic animals are known in Tibet; but the one most used as a beast of burden is the *bhoral*, a large sheep covered with long hair.

Ethnography.—The Tibetans belong to the Mongolian race, and, like the Mongols Proper, were at first divided into many independent tribes, who followed a nomadic life. The practice of polyandry is common—one woman becoming the wife of all the brothers in a family.

Their *Language*, sometimes called Tibetan, and sometimes Bhotanta—because spoken also in Bhotan—belongs to the monosyllabic family, though not a few polysyllables exist in it. It bears a great resemblance to the Chinese—some of its roots, and nearly all the derivatives, being clearly traceable to that language. The alphabet, however, is phonetic; reads from left to right, and is without doubt borrowed from the Sanscrit. *Buddhism* was introduced into Tibet about A.D. 367, and that country has for ages been the home and headquarters of the Buddhist faith. Under the name of Lamaism it still exists here in its primitive purity; while the Grand Lama or Supreme Pontiff is regarded as an incarnation of Buddha.

The numerous rites and ceremonies are said to bear a most remarkable resemblance to those of the Romish Church.

Commerce, &c.—Tibet became subject to China in 1648, and is now ruled by viceroys from Peking, in conjunction with the ecclesiastical heads of the country. *Manufactures* of woollens, sacking, and other woven fabrics are pretty general, and much cloth is sent from Lassa into China. The *Traffic* through Tibet is extensive, though the roads and bridges are far inferior to those of China. It is for the most part monopolised by the Government and officers of state. Nepal and Bhotan derive all their Chinese goods through Tibet.

Table of Rivers and Towns.—The following Table exhibits the River-System of China and the east part of Chinese Tartary. All the basins incline to the Pacific Ocean:—

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Co. of Quang-tung, Lien-chow.		Oo,.....	Se-nan, QUEI-YANG, n., Ching-hiang.
Choo-kiang,	Victoria, Macao, CAN- ton, Chow - king, Sin-chow.	Kia-ling, l.....	Poo-kiang.
Quei, l	Quei-ling.	Min, l.....	Sioo-choo, CHING- TOO.
Ngo-yu,	Chin-ngan.	Tien-chi,.....	YUN-NAN.
Han-kiang,	Chow-chow.	Hoang-ho,	Hwai-ngan, Quei - te, n., KAI-FONG, Hoai- king, LAN-CHOW.
Fo-kien Channel, Amoy, Chang-chow, n.		Wei-ho,.....	SI - NGAN, KOONG- chang, n.
Min,	Poo-chow, Yen-ping.	Fuen-ho, l.....	Pin-yang, Fuen-chow, TAI-YUEN.
Co. of Che-kiang, Wan - chow, n., Tai- chow, Ning-po.		G. of Pe-chi-li, ..	Teng-chow.
Tsien-long,	Hang-chow.	Ta-tsin,.....	TSI-NAN, Tong-chang, n.
Woo-sung,	Shanghai, Soo-choo, Kia-hing.	Eu-ho,	Tien-tsin.
Yang-tse,	NANKING, Tai - ping, Chee-chow, NGAN- KING, Han - kow, Wo - CHANG, Quei- chow, Sioo - choo, Li-kiang, Bathan.	Pei-ho, l	PEKING, n.
Kan,	NAN-CHANG.	Chan-tou,.....	Zehol, Dolonnor.
Po,	Kin-te-ching.	Leao-ho,	MOOKDEN.
Han, l.....	Siang - yang, Han- chang.	Kiang-ho,.....	KING-KI-TAO.
Heng,	Yo - chow, CHANG- SHA, Hong - chow, Yong-chow.	E. Co. Corea,	Ping-hai.
Yuen,	Chin-yuen, n., Ping- yoo, n.	Amoor and Shilka, NIKOLAIJEVSK, Sagh- alien-Oula, BLAGO- VESCHENSK, Nert- chinsk.	
		Soongari,.....	KIRIN-OUULA.
		Argun,.....	Fort Argunsk.
		Ingoda, l	Chita.

WESTERN TURKESTAN.

Boundaries.—N., Siberia; W., Caspian Sea; S., Persia and Afghanistan; E., Eastern Turkestan.

The latitude extends from 35° to 46° N., and the longitude from 51° to 74° E. Bokhara, near the centre, has the same latitude as New York, Madrid, Naples, Constantinople, and Peking.

Area and Population.—Russia having recently annexed the Kirghis Steppe, with portions of Khiva, Bokhara, and Khokan, the area may now be estimated at 583,874 square miles, and the population at 7,870,000; or more than four times the area of the United Kingdom, with about one-fourth of its population.

Surface.—The surface consists for the most part of an immense plain, which from all sides slopes towards the Caspian and Sea of Aral, and forms a continuation of the great Siberian plain, from which it is only partially separated by a low chain of hills that connect the Urals with the Altai. A portion of this plain, including the Caspian, is considerably beneath the level of the Black Sea, but the Sea of Aral is 33 feet above it. The S.E. part of Turkestan consists of a part of the lofty plateau of Pamir, 15,600 feet high. Here are many well-watered and highly fertile valleys, but in general the country is extremely sterile.

Political Divisions.—Turkestan consists of a number of semi-independent states, or *khanats*, as they are called, the principal of which are the following:—

KA FIRISTAN.—Caundeish 3 n., Chittral 4 (Kamah, *aff.* Cabool).

KUNDUZ.—Kunduz 5 n., Fyzabad (Amoo), Khulum 10 (Khulum).

BOKHARA.—Bokhara 160, Samarcand* 10 (Kohik), Kurshee 10 (Kurshee), Balkh 2 (Adersiah).

KHOKAN.—Khokan 100, Tashkend* 90, Khojend* 50 (Syr Daria).

KHIVA.—Khiva 10 n. (Amoo), Merv 3 (Muhrgaub), Shurukhs 10 (Tejend).

Descriptive Notes.—*Caundeish*, the principal village of Kafiristan or “land of the Kafirs or infidels,” the name given to this region by their Mohammedan neighbours, who hold them in the greatest abhorrence. *Kundus*, a wretched place, consisting of about 600 mud hovels. *Fyzabad* or *Budakshan*, on an affluent of the Amoo, has acquired great celebrity for its valuable mines of ruby and lapis-lazuli. *Bokhara* is a celebrated city, and the only really populous one in the khanat. It has been long famous as a seat of Mohammedan learning, and of very extensive commerce. *Samarcand*, now an insignificant place, was at one time one of the most famous of Asiatic cities, and the capital of one of the largest empires that have ever existed—viz., that of Tamerlane, whose tomb is enclosed within its walls. The city is regarded with great veneration in Central Asia, and is the entrepôt for a considerable caravan trade. *Balkh*, capital of a province of same name (the ancient kingdom of Bactria), now subject to the Khan of Bokhara, was anciently one of the most flourishing cities of the East, and the emporium of the trade between India, China, and Western Asia. It is styled “the mother of cities,” on account of its high antiquity. *Khokan* has manufactures of silk and cotton tissues, and an active trade in cattle. The khanat is the country of the celebrated Sultan Baber, the founder of the Mogul empire in India. *Tashkend*, an important commercial city, with manufactures of silk, cotton goods, and gunpowder. *Khiva*, a miserable-looking place, built of mud, and extremely filthy, is the greatest slave-market in Turkestan.

Climate.—The climate is necessarily very diversified, since the elevation ranges from that of the Caspian, which is 84 feet below the level of the Black Sea, to 18,000 feet above it. That of Bokhara, in the south, is, however, described as dry, pleasant, and salubrious, but very cold in winter, when the Amoo is covered with so deep a coating of ice that travellers can easily pass over it. Snow lies about three months in the year, and violent tornadoes frequently follow the summer heats, which in June rise to upwards of 100° during the day, and fall to 60° at night.

Products.—Gold in the sands of the Amoo; salt deposits numerous; mines of rubies and lapis-lazuli; timber is extremely scarce; fruits are excellent and abundant, especially in Bokhara, the melons of which are unrivalled. The principal cultivated plants are rice, wheat, barley, maize, tobacco, hemp, rhubarb; but tillage is almost confined to the banks of the rivers. Among wild animals, the most numerous are the buffalo, wild horse, saiga antelope, yak, argali, leopards, wolves, foxes, and hares; scorpions are common, and locusts sometimes infest the country.

* These have been recently annexed by Russia.

Ethnography.—*Turkestan* means “land of the Turks,” this country having been the headquarters of the Turkish race from time immemorial. The south-west is inhabited by nomadic tribes (Turcomans and Uzbecks). Among the settled tribes the most numerous are the Taujiks, who are supposed to be of Persian or Arabian origin, and speak pure Persian; their religion is Mohammedanism, but Soofeeism, or free-thinking, also prevails among them.

Commerce.—The commerce of the country, especially of Khiva and Bokhara, is considerable—their territories being favourably situated in regard to Russia, Persia, Afghanistan, India, and the Chinese empire—and is conducted by means of caravans. The manufactures are few and unimportant, consisting chiefly of some silk and cotton stuffs, made in the towns, with sabres, knives, and other weapons. The principal exports are cotton, wool, fruits, hides, sheep-skins, and silk.

Government.—The various governments are despotic, but the khans are obliged to rule in accordance with the principles of the Korán, and they are also influenced by the priests and by public opinion.

River-System of Central Asia, or Basin of Continental Streams.—A portion of this immense basin—viz., the minor basins of the Ural, Volga, Kuma, Terek, Kuba, and Kur, all lying W. of the Caspian—has been treated of under “European Russia.” The following table embraces the N. and centre of Persia, the N. and W. of Afghanistan, and the greater part of *Turkestan* and Chinese Tartary. Many of the rivers flow into lakes which have no outlet; the names of the latter are in the table inserted between parentheses.

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
N. Co. Persia, . . .	RESHT, Lahijan, Amol, n., Balfrush, SAVEE, ASTRABAD.	ILI (L. Balkash), . .	ILI or Guldja.
Kizil Ouzan } (Caspian), . . .	Lahijan, Casbin, n.	Kobdo (L. Ike } (Aral),	Kobdo.
Zenjan,	Zenjan.	Yarkand (Lop } YARKAND.	
Attruck,	Kabooshan.	Nor),	
Aigi (L. Urumiah), TABRIZ, Maragah, n.	Urumiah, Maragah, n.	Khotan,	Khotan.
Amoo (L. Aral), . .	KBIVA, n., KUNDUZ, n., Fyzabad, n.	Kashgar, l . . .	Kashgar.
Muhrgaub, l . . .	Merv.	Helmund (L. } DOOSHAK.	
Tejend, l . . .	Shurukhs, MESHED.	Hamoon,	
Kohik,	BOKHARA, Samar-cand.	Turnak, l	CANDAHAR, n.
Kurshee,	Kurshee.	Heri-rood (lost } HERAT.	
Adersiah, l . . .	Balkh.	in sand), . . .	
Khulum,	Khulum.	Ghuznee (L. } Ghuznee.	
Syr Daria,	Tashkend, Khojend, KHOKAN.	Abistada), . . .	
		Rocknabad (lost),	SHIRAZ.
		Zendarood (lost),	Ispahan.
		Karasu (lost), . .	Hamadan, n.
		Kehveh (lost), . .	TEHERAN, n.

SIBERIA.

Boundaries.—N., the Arctic Ocean; W., Russia and the Caspian; S., *Turkestan* and Chinese Empire; E., the Pacific Ocean. Lat. 33°—78° 25' N., lon. 50° 6' E.—170° W.

Tobolsk, near the central parallel, is in the same latitude as Mount St Elias, Cape Farewell, Kirkwall, Stockholm, St Petersburg, and Okhotsk.

Area and Population.—The area is estimated at 5,585,000 square miles, and the population at 5,500,000; hence, though half as large again as Europe, its population does not much exceed that of Ireland: length 3600 miles, breadth 1800 miles.

Surface.—The northern half is a vast lowland plain, gently sloping towards the Arctic Ocean, and watered by numerous gigantic rivers which flow in that direction. The surface here is so low that Tobolsk, the W. capital, 350 miles from the ocean, is only 128 feet above its level, and Yakutsk, in the E., rather more distant, only 287 feet. The rivers, through a great part of the year, flow under a thick covering of ice, and, owing to their slight fall, readily overflow their banks, and inundate extensive portions of their basins. The Kirghiz Territory, recently acquired, is but little elevated above the level of the Black Sea; but the entire south-east portion of Siberia is highly mountainous (p. 152). By far the greater part of the soil is sterile, but the mountain-chains in the S. are clothed with forests and interspersed with many fertile valleys. The valley of the Amoor, in particular, is highly fertile.

Political Divisions.—Siberia is divided by the Russian Government into two great divisions—viz., Western and Eastern Siberia—which are subdivided as follows:—

WESTERN SIBERIA.

TOBOLSK.—Tobolsk 16, Omsk 16 (Irtish, *aff.* Obi).

TOMSK.—Tomsk 18 (Tom, *aff.* Irtish), Barnaul 11, Bjisk 4 (Obi).

KIRGHIZ TERRITORY.—Novo Alexandrovsk (Caspian).

TURKESTAN.—Turkestan 10, Tashkend 90 n., Khojend 50 n. (Syr Daria).

EASTERN SIBERIA.

YENISEISK.—Krasnoiarsk 6, Yeniseisk 6 (Yenisei).

IRKUTSK.—Irkutsk 28 (Angara, *aff.* Yenisei), Kiachta 5 n. (Selenga), Nertchinsk 20 (Shilka), Argunsk (Argun).

AMOORSKAYA.—Blagoveschensk, Oli, Saghalien Oula 20 (Amoor).

YAKUTSK.—Yakutsk 5, Veluisk, Olekminsk (Lena).

OKHOTSK.—Okhotsk 1 (Sea of Okhotsk).

KAMTCHATKA.—Petropaulovski 1 (E. coast).

Descriptive Notes.—*Tobolsk*, the capital of Western Siberia and the chief centre of its commerce. *Omsk*, formerly capital of a government of same name which is now divided between Tomsk and Tobolsk. *Tomsk*, the principal place in the mining district of the Altai. *Krasnoiarsk* contains a fine collection of Siberian antiquities. *Yeniseisk* has a great annual fair, and an extensive trade in furs and Chinese produce. *Irkutsk*, noted for the beauty of its situation, has telegraphic communication with St Petersburg, and is the grand emporium of the Russian commerce with China. *Kiachta*, till lately the only place on the frontier where the Chinese Government allowed its subjects to trade with Russia. *Nertchinsk*, the headquarters of the chief penal settlement in Eastern Siberia, where the worst criminals are sent, and compelled to work in the lead and quicksilver mines. *Blagoveschensk* is the residence of the governor of the territory lately acquired from China. *Saghalien Oula*, on the right bank of the Amoor, is a rich and populous place, and carries on an extensive trade in furs. *Yakutsk*, the centre of the fur trade of Eastern Siberia. *Okhotsk*, the principal station of the Russo-American Company, and the entrepôt of the Russian trade with Kamtohatka and Russian America. *Petropaulovski*, the capital of the district Kamtohatka, was bombarded by the Anglo-French fleet in October 1854.

Capes, Islands, Seas, Bays, Gulfs, and Lakes.—See under "Asia."

Climate.—The climate is intensely cold during winter, which lasts nine months, but very warm during the brief summer. The lower basin of the Lena is the coldest known region on the globe.

The mean temperature for January at Yakutsk, in this basin, and almost exactly in the centre of Siberia, is 36°.7 below zero; while that of July, the hottest month, is 58°.8—showing a difference of 94° of temperature between the hottest and the coldest month. Here mercury remains frozen from two to three months in the year, breathing becomes difficult, and the reindeer hides himself in the depths of the forest and stands motionless. The heat of summer penetrates the soil only to a depth of about 8 feet, beneath which it remains permanently frozen. Erman found, by sinking a well, that the frozen stratum extended to the depth of 400 feet at Yakutsk, but in other places it is much less. The rivers are covered for many months with a thick coating of ice; and the country being almost a dead level, and the upper courses of the rivers melting earlier in summer than the lower, much of their lower basins becomes inundated.

Products.—Siberia yields to no country in the world for the richness and variety of its mineral productions.

There are three extensive mining districts—viz., 1. Those of the Urals, on the E. declivity of which they occupy an area of about 40 miles wide, and yield great quantities of iron, gold, and copper, with some silver and platinum. 2. The mining district of Barnaul, in the Altai Mountains, which are also rich in cornelian, onyx, topaz, amethyst, and other gems. 3. The district of Nertchinsk, peculiarly rich in lead, quicksilver, tin, zinc, and iron. Here are also celebrated mines of emerald and topaz, found generally in connection with tin. Enormous forests of coniferous and other trees extend from the Altai Mountains to the Polar Circle; a few bushes, willows, and saline plants form the principal vegetation of the *steppes* in the W.; while in the dreary region of the *tundras*, N. of the Arctic Circle, are found only the dwarf willow, mosses, and lichens. The principal cultivated plants are rye, barley, and oats, which rarely ripen beyond the lat. of 60°. Flax, hemp, tobacco, pease, beans, potatoes, cabbage, onions, and radishes are cultivated; but fruit-trees do not succeed anywhere except in the lower basin of the Amoor. Siberia is also very rich in its wild animals, especially the fur-bearing species, as the sable, ermine, marmot, marten, beaver, squirrel, and fox, the skins of which form an important article of commerce. Other wild animals are the white and black bear, the reindeer, elk, wolf, and glutton.

Ethnography.—About one-half of the population of Siberia consists of exiles and convicts from European Russia, who, to the number of about 10,000 annually, are sent hither either to work in the mines or to colonise the country. The remainder consist of semi-civilised or wholly barbarous tribes of Samoiedes, Tchukchees, Kamtchadales, Tunguzes, Ostiaks, Wogulians, and Kirghiz.

The Samoiedes, in North Siberia, between the Ural Mountains and the Lena, are in all probability the earliest inhabitants of Northern Asia. Their language more closely approximates to the Finnish than to any other known tongue. They are an extremely ignorant and degraded race; their religion is Shamanism, one of the grossest forms of idolatry; and they depend for their precarious subsistence on hunting and fishing. The Tchukchees and Kamtchadales occupy the remainder of Northern Siberia, from the Lena to the Pacific. They lead a wandering life, and subsist by fishing and the chase, though many of them possess large flocks of reindeer. In winter they live in huts below the level of the ground, with only a single aperture for the admission of light and air. South-western Siberia, between the Yenisei and the Ural, is mainly occupied by the Ostiaks, Wogulians, and Kirghiz, nations of Turkish origin, professing the Mohammedan religion, speaking dialects closely allied to each other and belonging to the Finnish family of tongues. The last-named became tributary to Russia only a few years ago.

Manufactures and Commerce.—The manufactures are insignificant, except in the mining districts and in some of the provincial capitals, where are government foundries. The commerce is of considerable extent, consisting chiefly of the exportation of the produce of the mines, together with furs, skins, cattle, fish, mammoth bones, morse teeth, and caviare, in exchange for which tea, silk, porcelain, paper, rhubarb, and salt are imported. By the treaty of 1858 Russia has obtained pos-

session of the vast tract of country between the river Amoor and the Yablonoi Mountains, and established posts, not only on both banks of that river, but also in harbours on the seaboard of the Gulf of Tartary. Thus a fluvial communication is all but completed between the Baltic Sea and the Pacific Ocean.

River-System of Siberia.—The following table, in continuation of that given under the "Chinese Empire," embraces the rivers and towns of Northern Asia, from the Amoor to the Obi:—

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Amoor,.....(See under "Chinese Empire.")		Angara, .....IRKUTSK.	
Okota, .....OKHOTSK.		Selenga, l.... <i>Kiachta, Maimatchin.</i>	
E. Co. of Kamt- } chatka, }	PETROPOLVSK.	Orkhon, ... <i>Karakorum, OURGA, n.</i>	
Lena,..... <i>Velutsk, n., YAKUTSK,</i>		Obi, <i>Berezov, Surgut,</i>	
	<i>Olekminsk.</i>		<i>TOMSK n., Barnaul.</i>
Yenisei, .....Yeniseisk, KRAENOI-ABSK.		Irtish, l.....TOBOLSK, Omsk, SEMIPOLATINSK.	
		Tobol, l.....Tobolsk.	
		Isset, l.....Ekaterinburg.	

J A P A N.

Boundaries.—W., the Sea of Japan, separating it from Mongolia, N., E., and S., the Pacific Ocean. Lat 26°—49° N., lon. 129°—150° E.

Yeddo, the capital of the empire, situated almost exactly in the centre of its area, lies in the same latitude as Gibraltar, Malta, Cyprus, Teheran, Kashmir, Tse-nan, Monterey, and Cape Hatteras.

Area and Population.—The area is estimated at 152,000 square miles, the population at 35,000,000. This population is nearly the same as that of the British Isles, but the area is considerably larger.

Surface.—The greater part of the empire consists of an elongated archipelago, subdivided into a series of minor groups, Japan Proper being in the centre. This archipelago is traversed throughout its greatest length by a chain of mountains of considerable elevation, some of which attain the snow-limit, and many are active volcanoes, as Fusi-Yama, in Nippon, 14,177 feet high. The remainder of the surface, though bold, is not rugged, and the majority of the hills are cultivated to the summit.

Political Divisions.—The empire, which embraces Japan Proper (consisting of four large islands), the Loo-Choo Isles, the Kurile Isles, and the southern portion of Corea, is divided into 8 provinces. The principal islands, with their chief towns, are as follow:—

NIPPON.—Yeddo or Jeddo 1500, Orogawa 20, Miako 500, Osaki (south coast).

SIKOKU.—Tosa, Ava or Awa (east coast).

KIUSIU.—Nagasaki 100, Saga (west coast), Kagosima 180 (south coast).

YESSO.—Matsumai 50 n., Hakodadi 7 (south coast).

LOO-CHOO ISLES.—Sheudi, Napa (Great Loo-Choo Island).

Descriptive Notes.—JEDDO (pronounced *Yeddo*), capital of the empire and the residence of the secular emperor, is equal to London in extent, with about half

its population : one of the streets is ten miles long, and as closely crowded with houses as between Hyde Park Corner and Mile End. *Orogawa*, the port of Yeddo, is a place of considerable importance, from the complete command it has over the trade of the capital, of which it forms the key. *Miako*, a large and populous city, the ecclesiastical capital of the empire, and the residence of the Mikado or spiritual sovereign, is said to be the principal manufacturing city in the empire, and the chief seat of its literature. *Osaki*, the port of Miako. *Tosa* and *Ava*, populous cities on the east coast of Sikokf. *Nagasaki*, the principal seaport and commercial emporium of Japan, has, for the last two centuries, been the only place at which foreigners were allowed to trade. *Saga*, a large and populous city, possesses considerable trade. *Kagostma*, bombarded and reduced to ashes by the British fleet in 1863. *Matemat*, a large, fortified, and commercial city, with a commodious and well-sheltered harbour, contains numerous temples, theatres, and various other edifices, which are usually painted white. *Hakodadi*, one of the towns at which the ships of the United States, England, France, and Russia, are allowed to trade. *Sheudi*, the capital, and *Napa* the principal port, of the Loo-Choo group, which forms a sort of outpost to Japan, though owning a qualified subordination to China. The inhabitants are described as far advanced in civilisation, and as bearing the closest resemblance to the Japanese in language, customs, laws, dress, virtues, and vices.

Capes, Seas, and Straits.—See under "Asia."

Climate.—Much milder than the corresponding latitude on the neighbouring continent, owing to the influence of the surrounding ocean ; but the W. side is considerably colder than the E., on account of the proximity of Asia. In the S. the thermometer ranges between 29° and 104° Fah. ; but in the N. the cold is so intense in winter as to compel the savage Ainos to take refuge in caverns. Rain is very frequent, and the country is often visited by hurricanes and fearful earthquakes, while volcanic eruptions of the most formidable character are by no means rare.

Products.—The precious metals and copper are very abundant, but iron is scarce. Coal is very plentiful, and is largely exported to China, where it supplies a large section of the inhabitants with winter-fuel. Whole mountains of porcelain earth are met with, and thermal and mineral springs frequently occur.

The flora is very varied, and appears to occupy a middle place between that of Europe and of North America. In the south are found palms, bananas, bamboos, bignonias, myrtles, and cypresses ; in the north, oaks, pines, firs, the maple and ironwood-tree ; while the varnish and camphor trees are said to be indigenous. Some of the timber is highly prized for shipbuilding. The principal cultivated plants are tea, cotton, rice, sugar-cane, tobacco, hemp, wheat, barley, and buck-wheat. Rice yields two harvests annually, and constitutes, with fish, the chief food of the people. **ZOOLOGY.**—The fauna is very imperfectly known to Europeans ; but among the wild animals are monkeys, bears, boars, hyenas, foxes, weasels, and deer. The fox is worshipped as a divinity by the most intelligent men in the country. Birds are found in great variety, and reptiles, especially snakes, lizards, and tortoises, are numerous. The domestic animals are few ; elephants, camels, asses, and mules, are unknown ; the horse is used only for the saddle, buffaloes and oxen being the animals employed for draught and burden.

Ethnography.—The Japanese are probably of the Mongolian race, with some admixture of Malay blood ; but it remains very uncertain from what country they migrated, as they have been located in their present insular home from time immemorial. They do not resemble the Chinese in physical aspect, language, or ancient religion.

The Japanese, Loo-Chooan, and Corean Languages are very closely allied to each other ; they are phonetic, polysyllabic, and, to some extent, inflexional, and thus differ widely from the Chinese. On the whole, they have so many affinities with the Tauranian or Finno-Tartarian family of languages, that they must, at least provisionally, be classed under that stock. The Japanese have a writer

literature, some science, and a taste for music. Their ancient *Religion* was the *Shinto* or *Sin-sin* ("doctrine of spirits"), so called because consisting chiefly in the adoration of numerous spirits supposed to preside over all things, whether in the visible or invisible world; but in the sixth century Buddhism was introduced, and now the great bulk of the inhabitants conform to it, while a few have adopted the doctrines of Confucius.

Government and Commerce.—From time immemorial Japan has groaned under a feudal despotism of the severest type. Besides two sovereigns, a temporal and a spiritual, there were hundreds of nobles, named "daimios," each of whom had absolute power within his own territory. Little or no communication was allowed with foreign nations, and such civilisation as existed in the country was absolutely stereotyped. Some trade was carried on with China, and the Dutch were permitted to send two ships annually to Nagasaki.

This state of matters continued till the middle of the present century, when the superior civilisation of the West at length burst through all restrictions. In 1854 a general convention of peace and amity was signed between Japan and the United States, by which the ports of Nagasaki, Simoda, and Hakodadi were opened to the ships of the latter for trade and protection. In the following year similar privileges were accorded to England, France, and Russia. These privileges were still further extended in 1858—Lord Elgin, the British Ambassador, having entered Yeddo, and obtained from the emperor a liberal treaty of commerce, which secures the advantages of unfettered trade to all nations at the following ports—viz., Hakodadi, Nagasaki, Kanagawa, and Née-é-gata; while British subjects may reside at Yeddo, Osaki, and Hiego. This intercourse with foreigners has borne fruit with unparalleled rapidity. Unlike the natives of China, the Japanese have evinced a disposition to abandon their time-honoured usages, to study the arts and sciences of Europe and America, and to aspire to political liberty. In 1870 the "daimios" magnanimously surrendered their feudal rights, and agreed to subject themselves and their dependants to law, and to the secular emperor. The military, naval, educational, and scientific institutions of European nations are successfully imitated. Railways are being built, both in the eastern and western portions of the empire, and 1000 miles of telegraph wire were in operation in 1872.

A F R I C A.

Boundaries.—N., the Mediterranean Sea; W., the Atlantic Ocean; S., the Southern Ocean; E., the Indian Ocean, Red Sea, and Isthmus of Suez which unites it to Asia.

Africa extends from lat. 37° 20' N. (Ras-al-Krun) to 34° 50' S. (Cape Agulhas); and from lon. 17° 42' W. (Cape Verd) to 51° 22' E. (Cape Guardafui); and thus embraces 72° of lat. and 69° of lon. Its N. extremity is on the same parallel as San Francisco, Cape Charles, the Azores, Cape St Vincent, Athens, Lake Urumiah, Astrabad, and Yarkand; and its S., as Monte Video in Uruguay, and Adelaide in South Australia. In form it resembles a pear, with a large indentation on the western side, and a corresponding projection on the eastern. The extreme length from N. to S., which is nearly equalled by the extreme breadth, falls little short of 5000 miles. The coast-line is estimated at 16,000 miles, or 1 mile of coast to every 710 miles of surface; while Europe has 1 in 220 miles, America 1 in 490, and Asia 1 in 520. This single fact goes far to explain the past history of Africa: shutting herself up from the sea on all sides, she has ever remained isolated from the rest of the world, and little influenced by those social or political revolutions that have so powerfully promoted civilisation in the other continents of the eastern hemisphere.

Area and Population.—Great uncertainty still attaches to the area of Africa, but it is usually estimated at 12,000,000 square miles, being about three times the area of Europe, or nearly one-fourth the land surface of

the globe. The population is equally uncertain, but is now generally supposed to be about 188,000,000, or about one-seventh of the human race.

Political Divisions.—As much of the continent remains unexplored, and as the political relations of many of the barbarous nations lying south of the Sahara are continually fluctuating, the actual number of independent states cannot be specified with any degree of accuracy. The annexed table, however, embraces all the really important divisions, though not a few of the designations employed are rather geographical than political.

TABLE OF AFRICAN STATES AND COUNTRIES.

NAME	Area in Eng. Square Miles.	Population according to latest authorities.	Capital or Chief Town.	River, &c., on which the Capital stands.
Egypt . . .	178,000	4,306,000	Cairo.	Nile.
Nubia and Kor- dofan . .	480,000	3,158,000	Khartûm.	Nile.
Abyssinia . .	158,420	3,000,000	Gondar, &c.	L. Dembea.
Tripoli . . .	344,700	750,000	Tripoli.	Mediterranean.
Tunis . . .	45,710	930,000	Tunis.	Mediterranean.
Algeria . . .	253,000	2,921,000	Algiers.	Mediterranean.
Marocco . .	260,000	8,500,000	Marocco.	Tensift.
Sâhara . . .	2,436,000	1,000,000	Mourzouk, &c.	An Oasis.
Senegambia . .	250,000	12,000,000	Bathurst, &c.	Gambia.
Soudan . . .	631,000	38,800,000	Timbuctoo, &c.	n. Joliba, &c.
Guinea . . .	672,000	19,057,000	Coomassie, &c.	Dah, &c.
Country of the Hottentots . .	1,000,000	10,000,000	Barmen, &c.	Swakop.
South Africa . .	410,000	566,000	Cape Town, &c.	Table Bay, &c.
East Africa . .	2,779,000	37,000,000	Mozambique, &c.	E. Coast.
Madagascar . .	232,000	4,450,000	Tananarivo.	n. Centre.
Regions unex- plored in the Interior . . .	1,866,000?	41,500,000?		
Total . . .	12,000,000	188,000,000		

Surface.—A great plain occupies the N., from the Mediterranean to Mount Atlas, and from the Atlantic to the Red Sea. S. of Mount Atlas is the Sahara, or Great Desert, an immense sandy waste, but presenting great diversity in its physical configuration, some parts being low and flat, while in others it consists of table-lands and mountains from 4000 to 5000 feet high. The region of Nigritia, about the same size as the Sahara, consists, so far as known, of an immense plateau of from 1000 to 3000 feet in elevation. S. of Nigritia the Kong Mountains and the Chadda range form an immense wall, separating Northern from Southern Africa. From the Kong Mountains to lat. 10° S., Western Africa remains unexplored; while the eastern side of the continent, between the same parallels, is now ascertained to consist of an elevated plateau, studded with numerous gigantic lakes, two of which discharge the head-waters of the Nile. The recent travels of Dr Livingstone have thrown much light on the extensive tract of country lying between the ninth degree of S. lat. and the Orange River. This region is occupied

for the most part by the immense basin of the Zambezé in the N., and the Desert of Kalahari in the S., 3500 feet high, both of which are a continuation of the elevated plateau which lies on both sides of the equator. It is a curious fact, ascertained by Livingstone, that both the Zambezé and Zaire, two of the largest rivers of Africa, and flowing in opposite directions, have their origin in the same little lake (Dilolo), which has an elevation above the sea of only 4740 feet.

Isthmus and Capes.—Isthmus of Suez, uniting Africa with Asia, 72 miles broad. Bonn and Ras-al-Krun, N. of Tunis; Spartel, N. of Morocco; Cantin, W. of Morocco; Blanco, W. of the Sahara; Verd and Roxo, W. of Senegambia; Palmas and Formosa, S. of Upper Guinea; Lopez and Negro, W. of Lower Guinea; Good Hope and Agulhas, S. of Cape Colony; Corrientes, S.E. of Sofala; Delgado, N.E. of Mozambique; Guardafui, the most E. point of Africa; St Mary and Amber, the S. and N. extremities of Madagascar.

Islands.—The islands are arranged for the most part in groups or small archipelagoes. *In the North Atlantic*, the Azores, Madeira, Canary, and Cape Verd Islands. *In the Gulf of Guinea*, Fernando Po, Prince's Island, St Thomas, and Annabona. *In the South Atlantic*, Ascension and St Helena. *In the Indian Ocean*, Madagascar, Mauritius, Comoro, Zanzibar, Amirantes, Seychelles, Socotra.

The *Azores*, *Madeira*, and *Canary Isles* have been described under Spain and Portugal. The *Cape Verd Islands*, situated 320 miles west of Cape Verd, form an archipelago of ten principal and several smaller islands—all of which belong to Portugal: area, 1680 square miles; population, 85,398. The chief products are maize, rice, French beans, coffee, cotton, tobacco, and fruits. Turtles are numerous on the coasts, where amber is also abundant. *Ascension Island* and *St Helena*, both belonging to Britain, are situated far out in the Atlantic. Ascension is retained as a station at which ships may touch for stores, on their passage to and from Cape Town and the East India. St Helena is chiefly noted as the place of exile of Napoleon Buonaparte, from 1816 to his decease in 1821. His remains were exhumed and removed to Paris in 1840. *Madagascar*, the largest island of Africa, and the sixth largest in the world, is situated in the Indian Ocean, east of the Portuguese possessions, from which it is separated by the Channel of Mozambique, 240 miles wide. The area is estimated at 232,000 square miles, and the population at about 4,450,000. It is divided into numerous small states, all of which are tributary to one sovereign, whose capital, Tananarivo, situated on a lofty plateau, near the centre of the island, is said to contain 40,000 inhabitants. Tamatave, the chief commercial town, is situated on the coast N.E. of the capital. A chain of mountains traverses the island in the direction of its greatest length: the highest summit, Ankaratra, near the capital, attains an altitude of about 11,000 feet. Minerals are abundant, especially gold, silver, copper, lead, iron, and coal. The iron is mined to a considerable extent, and the coal is employed in smelting it. The climate is hot and extremely unhealthy to Europeans, especially along the coasts. Wild animals are few in number, consisting chiefly of lemurs (a species of ape peculiar to this island and the Comoro group in its vicinity), the ounce, wild-dog, wild-cat, and fox. The chief vegetable productions consist of medicinal plants, pepper, cotton, indigo, sugar-cane, tobacco, rice, and manioc. The inhabitants are of diverse races—some of them resembling the Malays, while others possess the black skin and woolly hair of the negro. Their religion is a rude species of polytheistic idolatry; and the monarch is the high-priest as well as the despotic ruler of his subjects. The prevailing language, which is called Malagasse, bears no resemblance to those of the neighbouring coast of Africa; but is very similar in construction and forms to the Tagala, the most perfect of Polynesian dialects. Christianity was introduced in 1818; the Scriptures have since been translated into Malagasse; and the number of converts is great and increasing, though they have been subjected to many cruel persecutions. *Mauritius*, also called *Isle of France*, was discovered by the Dutch in 1695, and received its name in honour of Prince Maurice of Holland. It was occupied by the French

from 1718 to 1810, when it came into the possession of Britain. Area, 824 square miles; population, 183,000—of whom 10,000 are whites, and the remainder negroes and hill coolies. It is mountainous, thickly wooded, and well watered. The soil is rich in the valleys, producing wheat, maize, yams, manioc, and the sugar-cane. The sugar-plantations cover an area of 101,000 acres, and the crop of 1847 was estimated at 65,000 tons. The principal exports are sugar, coffee of excellent quality, and ebony, which is considered the finest in the world. *Zanzibar* and *Pemba*, off the coast of Zanguebar, are fertile, densely peopled, and tributary to the Sultan of Muscat, who has his capital, Shanganny, in the former island. *Amirantes* and *Seychelles*, two groups of islands in the Indian Ocean, under the jurisdiction of Great Britain.

Seas, Bays, Gulfs, and Straits.—Mediterranean Sea, between Africa and Europe; Gulf of Sidra, between Barca and Tripoli; Gulf of Cabes, E. of Tunis; Strait of Gibraltar, between Morocco and Spain; Gulf of Guinea, between Upper and Lower Guinea; Bights of Benin and Biafra, on the W. and E. sides of the delta of the Niger; Table Bay, S.W. of Cape Colony; Mozambique Channel, between Mozambique and Madagascar; Gulf of Aden, Strait of Babelmandeb, Red Sea, and Gulf of Suez, between Africa and Arabia.

Mountain System.—The mountain system of Africa is less perfectly known than that of any of the other continents, unless Australia. The following, however, so far as ascertained, are the principal ranges, all of which run parallel to the adjacent coasts:—

The *Northern* or *Atlas Range*, between the Mediterranean Sea and the Sahara, and extending from Cape Nun on the Atlantic to the Gulf of Cabes—highest summits, Mount Mitsin, near the city Morocco, 11,400 feet; Mountains of Algeria, 7673 feet; height of snow-line, about 11,000 feet. The mountains of Sicily form an insular prolongation of this range.

The *Central Range*, in western and central Africa, separating the basin of the Niger from the Gulf of Guinea, and extending from Senegambia as far east, probably, as the sources of the Nile; it consists of several minor chains, as the Kong Mountains in the west, between Soudan and Upper Guinea; supposed elevation, 2500 feet; the Chadda range, between the Chadda and the unexplored interior (Mount Alantika, 9000 feet); and Mountains of the Moon, between L. Tanganyika and the sources of the Bahr-el-Ghazal, 10,000 feet.

The *South-Western Range*, extending from the Bight of Biafra to Cape Colony: Cameroon Mountains (lat. 4° 13' N.), 13,129 feet; Omotako Berg, in Damara Land, 8789 feet.

The *South-Eastern Range*, extending from Cape of Good Hope to Cape Guardafui, and separating the basins of the Orange, Zambezi, and Nile from the Indian Ocean; Compass Berg, in Cape Colony, 8500 feet; Drakensberg, in Natal, 10,000 feet; Zomba Mountains, between L. Nyassa and the ocean, 8000 feet; Kilimandjaro, a snow-capped volcanic peak, between L. Nyanza and the coast, and probably forming the highest summit of the continent, 20,065 feet; snow-line, 17,000 feet.

The *North-Eastern Range*, extending from C. Guardafui to the Isthmus of Suez, and separating the basin of the Nile from the Red Sea; Ras Detchen, in Abyssinia, 15,986 feet; Abba Jarret, 15,000 feet.

Rivers.—As much of the interior of Africa remains unexplored, no table of river-basins, similar to those given under "Europe" and "Asia," can yet be prepared. They may, however, be arranged into four systems, corresponding to the four great basins to which they belong—viz., the Mediterranean basin, the Atlantic basin, the basin of the Indian Ocean, and the continental basin, or basin of Lake Tchad.

1. **BASINS INCLINED TO THE MEDITERRANEAN.**—The *Nile* is the only great river belonging to this basin. Recent researches in Eastern Africa render it probable that the White Nile or Bahr-el-Abiad has its origin in Lakes Victoria Nyanza and Albert Nyanza, two immense sheets of water on the equator, the former of which is 3808 feet above the sea. The river first flows in a northerly direction for about 800 miles, when it unites with a large affluent from the W. named Bahr-el-Ghazal; then proceeding northward, it meets, on the right, the Giraffe and Sobat, and then the

Blue Nile or Bahr-el-Azrek, at Khartum, in Nubia. Its only other tributary is the Atbara, Tacazze, or Aswad, from Abyssinia, which joins it on the right. The total direct course of the Nile is estimated at 4000 miles, and the area of its basin at 520,000 square miles. 2. ATLANTIC BASIN.—The *Senegal*, from Bambarra, 1000 miles long, pursues a N.W. course, and falls into the Atlantic in the N. of Senegambia. The *Gambia*, from the Tengui Mountains, flows W.N.W. for 1000 miles, and falls into the Atlantic at Bathurst. The *Rio Grande*, from Footajallon, flows W. to the Atlantic; length, 400 miles. The *Quorra*, *Joliba*, or *Niger*, from the Kong Mountains, flows N.E. to Timbuctu, and then S.E. to the Bight of Benin; total course, about 2000 miles. The *Congo* or *Zaire*, in Lower Guinea, rises in Lake Dilolo, flows first N. and then W., and falls into the Atlantic, after a course of upwards of 1000 miles. The *Orange River*, between the country of the Hottentots and Cape Colony, flows W. to the Atlantic, after a course of nearly 1000 miles. 3. BASIN OF INDIAN OCEAN.—The *Zambesi*, an immense river of Eastern Africa, explored by Livingstone in 1856, rises in Lake Dilolo. It first receives the name of *Leeba*, for about 200 miles, when it is joined on the left by the *Leambye* from the N.E. About 800 miles farther on, it receives the *Chobe* from the S.W.; about 40 miles E. of the confluence of the *Chobe*, Dr Livingstone discovered the Victoria Falls, where the river, now about half a mile wide, rushes over a precipice 100 feet deep. About 300 miles below the Falls, the *Zambesi* receives the *Kafue*, on the left bank; and, about 140 miles farther down, it is joined by the *Loangwa*, flowing from the N. Flowing E. and S.E. for about 300 miles more, it receives the *Shiré*, from Lakes *Shirwa* and *Nyassa*, lately discovered, and finally reaches the ocean, after a total course of about 1430 miles. In common with the other large rivers of Africa—as the Nile, the Zaire, and the Niger—the *Zambesi* is characterised by periodic inundations. 4. BASIN OF LAKE TCHAD.—The *Yeuu*, from near Jacobs, flows N.E. 300 miles; and the *Shary*, from Dar Kulla, flows N.W. 350 miles into Lake Tchad.

Lakes.—The lakes of this continent are both numerous and extensive, but many of them are as yet imperfectly known to Europeans.

In the basin of the Nile are *Dembea*, in Abyssinia, 60 miles long by 25 broad, drained by the Blue Nile; the *Victoria Nyansa* and *Albert Nyansa*, both on the equator, forming the sources of the White Nile, the former being about 250 miles in length, 220 in breadth, and 3740 feet above the ocean-level. About 210 miles S.W. of Lake Nyansa is Lake *Tanganyika*, discovered by Burton and Speke in 1858. It is about 330 miles long, by from 10 to 50 miles broad, and 2344 feet above the sea-level. In Dahomey are Lakes *Denham* and *Avon*. In the centre of Nigritia are Lakes *Tchad* and *Fitté*, the former of which has an area of about 15,000 square miles; height above the sea, 830 feet. In South Africa the small Lake *Ngami* is 2385 feet above the sea. In the basin of the Zambesi are Lakes *Dilolo*, *Shuia*, *Nyassa*, *Shirwa*. The last named is drained by the *Shiré*, is 250 miles long by 40 or 50 broad, and 3000 feet above the sea.

Climate.—Africa is distinguished from all the other great divisions of the globe by its high temperature and general deficiency of rain. These characteristics mainly depend on its position and configuration.

Situated for the most part within the tropics, with the equator passing through its centre, it is more exposed to the vertical rays of the sun than any other continent; while the absence of deep inlets of the ocean, and the prevalence of lofty mountain-ranges along the coasts, prevent the cool sea-breezes from penetrating into the interior. Another prominent feature of the climate of tropical Africa is the division of the year into the dry and rainy seasons, which in most places succeed one another with undeviating regularity. Within the tropics, the rains follow the course of the sun—the rainy season occurring within either half of the torrid zone as that luminary approaches the zenith. Beyond the tropics, the rain falls in either hemisphere at the period when the sun is on the opposite side of the equator. The winds which bring the heaviest rains in tropical Africa are called *monsoons*, and come from the Indian Ocean. They continue from April to October; but between the great lakes and the coast, the rainy season is from June to September. The climate of North Africa is greatly affected by the position of the Atlas range of mountains. Between this range and the Mediterranean the country is well watered; but between Mount Atlas and the northern limit of the tropical rains, scarcely any rain falls during the year. The

mean annual temperature of the greater part of intertropical Africa is 79° Fah.; but in Eastern Nigritia and Abyssinia, it is as high as 88°. The highest mean annual temperature hitherto observed in any part of the globe, 87°, occurs at Massouah in Abyssinia; while the highest summer temperature occurs in a tract which extends through the centre of the Sahara and across the desert lying between the Nile and the Red Sea, where the thermometer frequently rises to 130° even in the shade.

Minerals.—Africa appears to be more deficient in minerals than any other continent, and very few mines are wrought.

Gold is obtained in considerable quantity in Senegambia, Upper Guinea, Nigritia, Mozambique, and Abyssinia; silver is rare, but is found in Marocco and Abyssinia; copper in the Atlas range, in Nigritia, East Africa, Cape Colony, and the basin of the Zambezi; lead and antimony in Mount Atlas; iron in many places, especially in Algeria, Abyssinia, Nigritia, and Cape Colony. Salt is found in many localities, and forms the most valuable mineral product of this continent. A chain of salt-water lakes skirts the southern base of the mountains of Barbary. Coal has been found recently in Mozambique.

Botany.—The botany of Northern Africa is similar to that of the south of Europe, and has been already treated of under that continent (p. 30).

The Sahara is characterised by an extremely scanty flora, consisting of a few prickly shrubs and grasses, except in the oases, where the date-tree, corn, and some vegetables are cultivated. Of the immense region of tropical Africa, the interior is little known, and the remainder, though possessing a luxuriant and gorgeous flora, is neither rich in species nor in peculiar forms. In general, however, it is characterised by the presence of the baobab, the largest known tree. Abyssinia is the native region of the coffee-shrub. In Guinea are found the butter-tree, the gum-tree, the African teak, the caoutchouc, cabbage, mahogany, and mangrove trees, the acacia, cactus, and cassia. In the basin of the Zambezi the principal vegetable products are coffee, vines, sugar-cane, cotton, and flax; and the inhabitants cultivate wheat, manioc, yams, millet, &c. Southern Africa will receive attention when we come to treat of Cape Colony, Natal, and Kafirland.

Zoology.—This continent is distinguished from all others by the richness and variety of its fauna, nearly all the species found in the Old World, with many others, being here represented in their best varieties.

MAMMALIA.—Of the 1704 species of known mammalia, about 446, or considerably more than one-fourth of the whole, are found in this continent. Monkeys, baboons, apes, and lemurs abound in every part of the continent where palm-trees are numerous; but the most remarkable animals of this order are the gorilla and chimpanzee of the western coasts, which approach nearer the human form than even the orang-outang of Eastern Asia. The *Carnivora* are in general highly ferocious and formidable to man. At the head of these stands the lion, of which there are three varieties—the Barbary, Senegal, and Cape lions. The tiger does not occur in Africa, nor have any bears been found; while the wolf and jackal are nearly confined to the region north of the Sahara. Leopards, panthers, and hyenas are numerous over the whole continent. The *Marsupialia* are the only order of mammals which have no representation in Africa. The *Rodentia* are 104 in number, of which no fewer than 94 are peculiar, comprising various species of jerboas, rabbits, hares, squirrels, rats, and mice. The *Edentata* comprise 6 species, all of which are peculiar. The *Pachydermata* are, with one exception, all peculiar. First in rank amongst these stands the elephant, which is found in all parts of the continent south of the Great Desert. It attains to a great size, and is of a different species from the Asiatic elephant. Its flesh is held in much esteem, while the tusks constitute one of the principal articles of export. The rhinoceros, which is hunted for its hide and horns, frequents the same haunts as the elephant. The hippopotamus, an animal peculiar to Africa, where it exists in two species, frequents all the larger rivers, especially the Zambezi, the Zaire, the Niger, the Senegal, the Gambia, and the upper course of the Nile: its teeth consist of the finest ivory, for the sake of which it is hunted by the Cape colonists. The *Ruminants* are greatly more numerous than in any other part of the world of equal extent. The antelopes alone are said to amount to 84 species. The canis-

opard, or giraffe, is peculiar to this continent; buffaloes abound in Southern and Central Africa; and the one-humped camel traverses the dreary desert regions.

The BIRDS of Africa are far less numerous than the mammals. Among the most remarkable species are the ostrich, whose feathers form a highly-valued article of traffic, the plumes being much in request in Europe for ladies' head-dresses. Its flesh, when young, is palatable, and its eggs are considered a delicacy. The vulture, owl, falcon, and eagle are among the birds of prey; the Guinea-fowl among the gallinaceous birds; the ibis and flamingo among the waders; the songsters are numerous; while the climbers include numerous varieties of parrots, cuckoos, and kingfishers. REPTILES of every order are found in this continent. The land-tortoises are chiefly confined to it; and though the serpents are few in number, the species that exist seem very widely spread. The saurians include crocodiles, geckos, iguanos, monitors, lizards, and skinks. The common crocodile is distributed over the whole continent; and though it is no longer found in the delta of the Nile, it is abundant in the whole upper course of that river. Africa is peculiarly rich in INSECTA. Of these the locusts are the most remarkable, having been from time immemorial the scourge of the country. Hardly less formidable are the termites or white ants, which swarm in countless myriads in tropical Africa. In the basin of the Zambezi, and many other localities in the S. and E., there is a venomous fly, called the tsetse, whose bite is fatal to nearly all domestic animals, especially the ox, horse, and dog.

Ethnography.—The people of Africa belong to a greater number of distinct races than those of any other continent. Much obscurity still attaches to many parts of the subject, but, so far as our present knowledge extends, they may be all traced to a few leading groups.

Northern Africa, including the Sáhara, and extending from the valley of the Nile to the Atlantic, is peopled by nations belonging to the Syro-Arabian stock. It consists of three main sections—viz., the Berbers, who occupy the Atlas range, the oases of the desert, and the intermediate region; the Moors, who inhabit the cities and towns of the maritime region; and the Arabs, who are found chiefly in Fezzan, and who entered the country under the standard of the Mohammedan chieftains. Central Africa, extending from the Sáhara to the Zambezi, and from the Atlantic to the Blue Nile, is occupied by the Negro race, to which the vast majority of the population of this continent belongs. They are divided into a great number of distinct nations, and constitute many powerful states, the principal of which will be noticed under Senegambia, Guinea, and Soudan. Southern Africa embraces two leading races—the Hottentots and Kafres. The former are confined to the S.W. angle of the continent, extending from Cape Negro to Cape Agulhas, and penetrating into the interior to the desert of Kalahari. They are a nomadic people, never cultivating the soil nor rearing any domestic animal, and deriving their subsistence from roots and beans and the flesh of game. They form, indeed, one of the most degraded sections of the human race, and are proverbial for their deformity. The great Kaffre nation occupies the entire remainder of Southern Africa—living N. and E. of the Hottentots, and extending, in some places, from sea to sea. On the western side of the continent they are found extending from the equator to Cape Negro, and on the eastern from Cape Colony to the frontiers of the Galla and Somali country. They greatly differ from the Hottentots in physical appearance, language, manners, and modes of subsistence. They are described as a fine, athletic race, frequently as handsome as Europeans; they are an agricultural people, tilling the ground, and engaged in pastoral pursuits. The north-east corner of Africa, between the Nile and Red Sea, and from Upper Egypt to the equator, is occupied by what Dr Krapf calls the "Nilotic class of nations," who form an intermediate link between the Syro-Arabian and Negro stocks. This class includes the Somali, Galla, and Afer or Danakil—pastoral tribes, situated to the E., S., and W. of Abyssinia; the Agows, of Western Abyssinia; and the Nubians, of Nubia and Dongola.

E G Y P T.

Boundaries.—N., the Mediterranean; W., Tripoli and the Libyan Desert; S., Nubia; E., the Red Sea, Gulf and Isthmus of Suez. Lat. 23° 50'—31° 35' N.; lon. 25°—34° E.

Cairo, the capital, is in the same latitude as New Orleans, Morocco, Bassorah, Mooltan, and Ning-po; and in the same longitude as St Petersburg, Odessa, Kutaya, and Port Natal.

Area and Population.—The area is uncertain, but probably it does not exceed 178,000 square miles. The cultivated portion of the country, however, does not amount to one-twelfth of this, being confined to the delta and valley of the Nile, and a few fertile oases on its western and eastern sides, amounting in all to about 15,000 square miles. The population in 1869 was estimated at 4,306,000, or a little less than that of Ireland, giving 340 persons to each square mile of the cultivated portion.

Political Divisions.—From the earliest times Egypt has been divided into three principal divisions—viz., Lower Egypt or Bahari, consisting for the most part of the delta of the Nile; Middle Egypt or Vostani; and Upper Egypt or Said.

LOWER EGYPT.—CAIRO 313, Alexandria 239 n., Rosetta 25, Tanta 55, Damietta 60 (Nile), Suez 15, Port Said 10, Ismaïlia 20 (Suez Canal).

MIDDLE EGYPT.—Ghizeh, Metrahenny, Medinet-el-Fayoum 15 n., Beni-Souef 5 (Nile).

UPPER EGYPT.—Siout 30, Girgeh 7, Keneh 5, *Ruins of Thebes*, Esneh 4, Assouan (Nile), Cosseir 2 (Red Sea).

Descriptive Notes.—*Cairo*, the capital of Egypt and the largest city in Africa, was founded by the Arab conquerors of Egypt, A.D. 970. Its numerous mosques and minarets give it an imposing appearance from a distance; but the dwellings of the people are mean, and built of sun-dried bricks, and the streets, though clean, are extremely narrow. *Alexandria* derives its name from Alexander the Great, who founded it, B.C. 332. At one time the proud capital of the East and the second city of the Roman Empire, it is still a place of great importance, and, with the exception of the capital, by far the most populous city in Egypt. It is the station of the Egyptian fleet, the emporium of its commerce with Europe, an important station on the overland route to India, and the residence of the foreign consuls. Alexandria contained the most extensive and famous library of the ancient world, which was partly destroyed by accident, during the war with Julius Cæsar, and the remainder by command of the Caliph Omar, who took the city by storm, A.D. 640. The Septuagint translation of the Old Testament—the most ancient and important of all the versions of Scripture—was executed here about the year 285 B.C. *Rosetta*: near it, in 1799, was discovered the famous Rosetta stone, which formed the key to the deciphering of the Egyptian hieroglyphics, and which is now deposited in the British Museum. *Damietta*, the third principal port of Egypt, was long famous for its manufactures of leather, and of striped cloths termed in Europe *dimity*. *Suez*, from its position on the highroad between Egypt and the East, has always been a place of extensive transit trade; but of late it has risen to great importance, from being the terminus of the railway and canal connecting the Mediterranean and Red Sea. *Ghizeh*, the principal town in Middle Egypt, 8 miles above Cairo, and on the left bank of the Nile: here the pyramids commence, the largest of which, 761½ feet square at its base, covers 13 acres, and was 486 feet high. *Metrahenny*, a village among the ruins of the ancient Memphis, which, after the fall of Thebes, became the capital of Egypt. *Medinet-el-Fayoum* (Arsinoë), noted for its distilleries of rose-water. *Beni-Souef*, the entrepôt for the produce of the valley of Fayoum. *Siout*, capital of Upper Egypt, and the largest and best-built town S. of Cairo, is the entrepôt between Cairo, Darfur, and Sennar. *Girgeh*, next to Siout the most important town in Upper Egypt. *Keneh*, an important mart for the trade with Arabia and Central Africa, has been

long noted for its manufacture of porous water-jars, used for draining the water of the Nile during its inundations. A little higher up are the stupendous ruins of *Thebes*, among the most remarkable of which are the magnificent temples of Karnac and Luxor. *Eneh*, the principal commercial town of Upper Egypt, famous for its vast ancient temple, which is now converted into a cotton warehouse. *Assouan* (Syene), was a place of importance in the geography and astronomy of the ancients, as it lay just under the Tropic of Cancer, and was therefore chosen as the place through which they drew their chief parallel of latitude. *Cosetir*, a seaport town on the Red Sea, is an entrepôt for the trade between Egypt and Arabia.

River-System.—The only river in Egypt is the Nile, to the annual inundations of which the fertility of the country is mainly due. For the sources and tributaries of the river, see under "Africa;" and for the cities and towns on its basin, under "Abyssinia."

Near Cairo the river spreads out into numerous arms, which enclose the fertile region called the *Delta*, so called from its shape, which is triangular and like the fourth letter of the Greek alphabet. It was long supposed that the inundations of the Nile were caused by the melting of the snows in the Abyssinian mountains; the real cause, however, is now ascertained to be the periodic rains which fall in the tropical regions of the continent between July and September. The waters of the Nile begin to rise at Cairo in June, attain their maximum height in September, and, after remaining stationary for a few days, begin to subside gradually till the end of November. The amount of the rise is a matter of extreme solicitude to the inhabitants; for should it exceed its customary limits by even a few feet, the houses are swept away, the cattle drowned, and incalculable injury effected; while should it come short of its average height, a famine is the inevitable consequence. On the retiring of the waters, the ground is covered with a rich deposit of mud, which is partly composed of vegetable matter, and which imparts an unparalleled fertility to the soil. Much of the subsiding water is retained in artificial canals, which, for the purposes of irrigation, are spread like a network over the delta and the narrow valley above.

Climate.—The climate of Egypt is extremely dry—a fact which accounts for the wonderful state of preservation of its ancient monuments; but the heat of summer is oppressive, owing to the confined position of the country and the lowness of its surface. At Cairo the mean annual temperature is 72°, winter 58°, summer 85°. There are only two seasons—the hot and the temperate—the former from October to March, and the latter during the rest of the year. Snow never falls, and rain is of rare occurrence. During the spring equinox the country is visited by a pestilential hot wind from the S.S.W., called the *simoom*; and, on the subsiding of the waters of the Nile, fever, ophthalmia, and dysentery prevail over the whole land.

Products.—The metals do not occur in Egypt; but carbonate of soda, saltpetre, salt, marble, limestone, and the red granite called Syenite abound.

The flora is very limited as regards the number of species, owing to the peculiar character of the country. There are no forests, but sycamores and palms are thinly distributed. The fruit-trees are of tropical orders, and those of Europe do not flourish. The vine, which was extensively cultivated in ancient times, but extirpated by the Mussulmans, was re-introduced by Mehemet Ali, who also introduced the mulberry-tree. The principal cultivated plants are cotton, lint, hemp, indigo, sugar, tobacco, and opium; the cereals comprise wheat, millet, maize, rice, and durrah—the last-mentioned forming, with beans, the main food of the people. The principal wild animals are the ichneumon, jerboa, and fox: the wolf, hyena, and jackal occasionally visit the valley of the Nile, but the hippopotamus has long ago retired to Upper Nubia, and never visits the waters of Egypt except when forcibly borne down by the flood. Reptiles are numerous, especially crocodiles and frogs; while insects embrace the locust and mosquito, the principal scourges of the country. Domestic animals are the same as in Europe, with the addition of the camel and dromedary. Poultry are reared in vast numbers, the

eggs being hatched by the heat of ovens, and not by the ordinary process of incubation; but the poultry thus reared are destitute of the instincts which relate to the care of offspring, and hence the artificial method must be persisted in.

Ethnography.—From the tenth chapter of Genesis we infer that Egypt was first colonised by the second son of Ham, who gave his own name, Mizraim, to his adopted country. The first king mentioned in history as having reigned over the country is Menes, who is supposed to have lived about B.C. 2429, an era corresponding to that of Nimrod, the founder of the kingdom of Assyria, and of Yao, the Chinese emperor, with whom the historical period of that country begins. The fellahs, or cultivators of the soil, who form the great majority of the inhabitants, are undoubtedly indigenous, and may be regarded as descendants of the ancient Egyptians; but, besides these, there are Turks, Bedouins, Jews, and Europeans.

LANGUAGE AND RELIGION.—The ancient Egyptian was closely allied in grammatical structure to the Hebrew and Arabic; but it has been extinct for ages, and no literary remains exist to show its true character, except some ancient inscriptions (which, till recently, remained utterly unintelligible to scholars) and the dialects into which it was ultimately divided, and in which very ancient translations of the Scriptures have been handed down. These dialects are the Coptic, now a dead language, but at one time the vernacular tongue of all Egypt; the Sahidic, anciently spoken in Said or Upper Egypt; and the Bashmuric, at one time prevalent in a portion of the delta. The Arabic is the only language presently spoken in Egypt, while the Mohammedan is the religion professed by the great body of the people, and, next to this, a corrupt form of Christianity termed the Coptic.

Government.—The government is an hereditary vicerealty, under the successors of Mehemet Ali, but owning a nominal subjection to Turkey.

"For twenty-four centuries, Egypt," says Mr Keith Johnston, "has been subjected to foreign domination. It was taken by Alexander the Great, B.C. 332; after his death it formed a separate kingdom under the Ptolemies, till B.C. 30; Augustus then reduced it to a Roman province; the Mohammedan Arabians seized it in the seventh century, and the caliphs possessed it for two centuries more; in 1250 it came under the power of the Mamelukes, who were subjected to the Turks at the commencement of the sixteenth century; the French overran it in 1798; in 1802 they were driven from it by the British; and in 1811 Mehemet Ali rendered himself master of the country by the massacre of the Mamelukes. By judicious government and great reforms, the country made rapid progress in civilisation under his rule. He added to his territory Nubia, Kordofan, and part of Abyssinia, Syria, Crete, and part of Arabia; but in 1840 he was deprived of all his Asiatic possessions."

Manufactures and Commerce.—There being no coal nor iron found in the country, the manufactures are inconsiderable, consisting chiefly of woollen cloths, pottery-ware, carpets, firearms, and military accoutrements.

Egypt has once more become the high-road of commerce between the East and West. This result is mainly due to the construction of a railway between Alexandria, Cairo, and Suez, and still more by the more recently constructed Suez Canal (10¹/₂ miles long), connecting the Mediterranean with Suez, on the Red Sea. From Suez there is regular steam communication along the Red Sea to Aden, and thence to Bombay, Madras, and Calcutta. The intercourse with Central Africa is very considerable, and is carried on by means of caravans, which bring, in exchange for European and Egyptian products, ivory, gold-dust, skins, wool, gum, ostrich-feathers, metals, and, till recently, slaves; but the slave-market was abolished in 1846. The receipts in 1869 amounted to £7,500,000, and the expenditure to £4,700,000. The exports from Alexandria to Britain (chiefly goods in transit) amounted to £14,200,000, and the imports from Britain to £4,500,000. Total exports, £18,752,000; imports, £10,632,000; public debt, £23,000,000.

NUBIA AND KORDOFAN.

Boundaries.—N., Egypt; W., the Sahara and Darfur; S., Abyssinia; E., the Red Sea. Lat. 11°–24° N., lon. 28°–39° E.

Khartúm, the modern capital, is nearly in the same latitude as the island Dominica in the West Indies, Cape Verde, Lake Tchad, Goa, Amherst, and Lanchang.

Area and Population.—Including Kordofán, the area is vaguely estimated at 480,000 square miles, and the population at 455,000, though some give it as high as 3,158,000.

Political Divisions.—The old political divisions of the country, though disregarded by its present Egyptian masters, are as yet the only ones recognised in Europe—viz.,

LOWER NUBIA.—Derr 3, Ipsambul (Nile), Selimah (W. Desert).

DONGOLA.—New Dongola 6, Berber 9 (Nile).

MEROE.—Shendi 10, Assur or Meroë (Nile).

SENNÁAR.—Khartúm 35 (Nile), Sennáar 9 (Blue Nile).

KORDOFÁN.—El-Obeid 20 (Oasis), Kaka, Gova (White Nile).

Descriptive Notes.—Derr, capital of Lower Nubia, is an assemblage of mud-built huts, surrounded by palm groves, which produce dates of a superior quality. *Ipsambul*, a place remarkable for containing two of the most perfect specimens of Egyptian rock-cut temples, containing statues and sculptures erected by *Rameses the Great*. *New Dongola* has an indigo factory belonging to the pacha of Egypt; it is a military depôt and a place of considerable trade. *Berber*, the rendezvous of the slave-merchants from Sennaar and Khartum. *Shendi*, a caravan-station, has a semi-weekly market for live stock, wheat, cotton cloth, salt, and senna. *Assur*, a village situated among the ruins of ancient Meroë, consisting of temples, pyramids, and other public works, in a style closely resembling the Egyptian. *Khartum*, capital of Sennaar and of all Nubia, is the residence of the Egyptian governor, and formerly the great depôt of slaves sent from Soudan and Abyssinia into Egypt. *Sennaar*, the former capital of the province of same name, has manufactures of arms, hats, leather, sandals, iron-ware, and jewellery. *El-Obeid* consists of several villages clustered together in an oasis, and exports gold, silver, ivory, hides, gum-arabic, and slaves.

Climate, extremely hot and dry, but generally healthy. N. of lat. 20° rain seldom falls, and even in Sennaar the rainy season (April to September) does not bring rain more than once every two or three years. Immediately before the periodic rains of the southern provinces the heat is insupportable—the thermometer rising in the shade to 118° Fah.—while the humid air resembles a steam-bath. Then come the fatal fevers and dysentery; but the plague is unknown south of the second cataract.

Products.—The vegetation is luxuriant in the south and along the banks of the rivers. The baobab, the largest and one of the most useful of all trees, palms of many species, the ebony-tree, the acacia, and mimosa abound; while the cultivated plants are durrah, barley, cotton, indigo, tobacco, senna, coffee, dates, and the sugar-cane. Agriculture employs most of the population along the banks of the rivers. The ape, baboon, elephant, rhinoceros, hyena, gazelle, giraffe, and hippopotamus, are the principal mammalia.

Ethnography.—The Nubians proper are Ethiopians, and are supposed by some to resemble the ancient Egyptians more closely than do even the Copts.

In the southern provinces, Sennaar and Kordofan, the inhabitants are chiefly negroes. They are the remnants of a once powerful negro nation who came down

the White Nile and subdued the Nubians in 1504. The Arabic is the common language, and the Mohammedan the sole religion. Previous to the conquest of Nubia and Kordofan by Ibrahim Pacha, in 1821, the country was governed by a great number of independent chiefs; since then it has been under the dominion of Egypt, whose viceroy resides at Khartum.

ABYSSINIA, OR HABESH.

Boundaries.—N.E., the Red Sea; N.W., Nubia; S.W., Kaffa; S.E., Somauli. Lat. 8°—16° N.; lon. 34°—43° E.

Gondar, the capital of Amhara, near the centre of Abyssinia, is on the same parallel with the extreme N. of South America, Bathurst, Lake Tchad, Aden, Madras, and Bangkok.

Area.—The area is estimated at 158,000 square miles, and the population at 3,000,000; or twice the area of the British Isles, with a population less than one-fourth of England.

Political Divisions.—For a long time Abyssinia was under a single monarch, but it now consists of an assemblage of independent states and petty chieftainships, of which the following are the principal:—

TIGRÉ.—Antalo 5 n. (Athara), Axum 4 n., Adowa 8 (Mareb).

AMHARA.—Gondar 7, n. (L. Dembea), Magdala n. (Bashilo).

SHOA.—Ankobar 12 n., Angollalla 3 n. (Djimma, aff. Blue Nile).

SAMARÁ.—Masuah 12 (Red Sea).

Descriptive Notes.—*Antalo*, a mean wretched place, consisting of about 1000 huts, but possessing some trade, and a manufactory of spears. *Axum*, the ancient capital of the kingdom of Abyssinia, now greatly decayed, contains a Christian church in which are kept the famous 'Chronicles of Axum,' a copy of which was brought to Europe by Bruce, the Abyssinian traveller. *Adowa*, the chief entrepôt of trade on the great caravan-route between Masuah and Gondar. *Gondar*, capital of Amhara, the central state of Abyssinia, was formerly very extensive, but has now greatly declined. *Magdala*, a hill fort, on the plateau of Talanta, stormed and totally destroyed by a British force under Sir Robert Napier, April 13, 1868, when King Theodore was slain and the British captives rescued. *Ankobar*, capital of Shoa, at an elevation of 8200 feet, is considered the healthiest and most agreeable place in Abyssinia. *Masuah* or *Massouah*, the largest town in Samara, and the principal seaport town in the whole country: it belongs to Egypt, and is the residence of an Egyptian governor.

Surface and Mountain-Ranges.—Abyssinia forms a lofty table-land (8000 feet high), gently inclined to the N.W., with two great declivities on the E. and S. sides towards the Red Sea and the interior of South Africa. It is traversed in various directions by mountain-ranges, the higher elevations of which frequently rise above the limit of perpetual snow, which has here an elevation of 14,000 feet: Ras Detschen, at the source of the Athara, 15,986 feet; Abba Jarret, between the Athara and the Guenqua, 15,000 feet.

Climate.—Extremely various—intensely hot in the valleys and on the coast of the Red Sea; cool and bracing on the table-lands; severe cold on the mountains. The periodic rains commence in June and continue till September, during which they are so violent as to put a stop to all out-door operations. The mean temperature of Ankobar is in June 62°, and in January 52°.

Products.—The minerals are very various, comprising sulphur, rock-salt, combustible substances, malachite, antimony, iron, gold, and silver.

South-east of Tigré is an extensive plain, which, to the depth of two feet, is pure salt, so hard as to require to be cut with a hatchet. The iron and salt alone are turned to profitable account.

The forests are magnificent, and contain sycamores of great size, cedars, and beautiful specimens of the acacia. The high plateaux yield luxuriant pasturage. The coffee-plant is indigenous, and, with cotton, grows wild in the mountains. The soil of the lower grounds is extremely fertile, and furnishes, without cultivation, many of the finest vegetable productions of the torrid zone. In some places as many as three crops are produced yearly. The wild animals are numerous, and comprise the lion, panther, leopard, wolf, striped hyena, two-horned rhinoceros, elephant, hippopotamus, booted lynx, camelopard, zebra, quagga, boar, buffalo, antelope, gazelle, monkey, crocodiles, and serpents of great size.

Ethnography.—The modern Abyssinians are a very motley group of different races, consisting of descendants from the primitive Ethiopic stock; of many Jews settled for ages in the country, and forming distinct colonies under the name Felasha ("the Exiles"); of a large population of Arabic origin; of Gallas, who have been introduced from the south, extremely barbarous; and of true negroes in a state of slavery.

Languages and Religion.—The Ethiopic or Gheez was anciently the sole vernacular tongue of Abyssinia, but the Amharic and Tigré, its two modern dialects, are now the only languages spoken in the country, except the Arabic, which prevails on the sea-coast, and the Galla, which is not of Shemetic origin, on the southern frontier. The Christian religion was established here in the fourth century, but it has long been shorn of its characteristic features. Mohammedanism prevails among the Arab population of Samara, and Judaism among the Jews.

Manufactures.—The manufactures comprise leather, parchment, cotton cloths, tapestry fabricated from wool and goats' hair, and articles of iron and brass. The principal *Exports* are ivory, gold, slaves, cattle, cotton cloth, mules, and honey; and the principal *Imports*, lead, tin, copper, silk, gunpowder, glass, Persian carpets, and French cloths.

River-System of Egypt, Nubia, and Abyssinia, or the basin of the Nile. The total length of the river, including windings, is about 3000 miles; and the area of its basin is estimated at 520,000 geographical square miles.

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Nile,	Damietta, Rosetta, Alexandria, n., CAIRO, Ghizeh, Metrahenny, Medinet-el-Fayoum, n., Beni-Souef, Siout, Girgeh, Keneh, Ruins of Thebes, Eneh, Assouan, Derr, Ipsambul, NEW DON-	Nile (continued)..	GOLA, Berber, Merôé, Shendi, KHARTUM, Gondokoro.
		Atbara,	ANTALO, n.
		Mareb,	Adowa, Azum, n.
		Bahr-el-Azrek,	KHARTUM, Sennaar, Emfras, Kiratsa, GONDAR, n.
		Djinnma, l ...	Angollalla, n., ANKOBAR.

BARBARY STATES.

Boundaries.—N., the Mediterranean; W., the Atlantic; S., the Sahara; and E., Egypt. Lat. 21°—37° N.; lon. 25° E.—11° W.

The length from E. to W. is 1785 miles, but the breadth varies from 140 miles (in Tripoli) to 800 miles (in Feszan). Morocco, near the central parallel, is in the same latitude as Jerusalem, Isphahan, Lahore, Nankin, and the head of the Gulf of California.

Area and Population.—The aggregate area is estimated at 908,000 square miles, and the population at 7,621,000; or nearly seven times the area of the British Isles, with about one-fourth their population. For the area and population of the different states, see the table at p. 197.

Political Divisions.—The Barbary States are four in number—viz., 1. Tripoli, including Barca and the great oasis of Fezzan, subject to Turkey; 2. Tunis, also a dependency of the Turkish Empire; 3. Algeria, a colonial possession of France (since 1830); 4. The Empire of Morocco.

TRIPOLI.—Tripoli 16, Derna 6, Bengazi 5 (N. coast), Mourzouk 4 (oasis of Fezzan).

TUNIS.—Tunis 180, Cabes 30, Kairwan 50 n., Biserta 10 (coast).

ALGERIA.—Algiers 52, Constantine 35 n., Bona 12, Oran 30, Tlemezen 14 n. (N. coast).

MAROCCHO.—Marocco 80 (Tensift), Fez 80, Mekinez 70 n. (Seboo), Tetuan 18, Ceuta 8, Tangier 10 (N. coast), Salee 14, Rabatt 40, Mogador 20 (W. coast), Tarodant 21, Tedsa 15 (Sus), Tatta 10 (Draha), Taflelt 10 (Zaimbi).

Descriptive Notes.—*Tripoli*, properly Tripolis, derives its name from the three ancient Carthaginian cities—Sabrata, Oea, and Leptis Magna. It carries on an extensive commerce with Central Africa by means of caravans. *Mourzouk*, in an oasis of the Sahara, is the last stage for obtaining water and provisions on the caravan-route from Tripoli to Bornou. *Tunis* is the most populous city in Barbary, and, with the exception of Alexandria, the most commercial in Africa. It has extensive manufactures of linen and woollen cloths, marocco leather, and various celebrated essences. About ten miles to the N.E. are the ruins of ancient Carthage, once the proud rival of Rome. *Kairwan*, a large city in a sandy plain at a considerable distance from the coast, was the first seat of Saracenic empire in Barbary; it contains the finest mosque in Africa, and is one of the holy cities of the Mohammedans. *Biserta*, a fortified seaport town, and the most northern in Africa. *Algiers*, capital of the French dominions in Africa, was seized by the French in 1830, since which it has been strongly fortified; it has now the appearance of a European city, is the residence of the Governor-General of Algeria and of many foreign consuls. *Constantine*, a fortified city taken by the French in 1847, is now a flourishing place, with manufactures of saddlery and other leathern goods. *Oran*, capital of the most western province of Algeria, was built by the Spaniards, and is surrounded by strong walls and ditches. *Marocco*, capital of the empire, situated in the centre of an immense plain which extends to the foot of the Atlas range, is ill-built, filthy, and spacious; the walls of the city are six miles in circumference, but many large fields and open spaces strewn with ruins are enclosed within this area. *Fez*, once the capital of a powerful independent kingdom, and the finest city in western Barbary: though now reduced to the rank of a provincial capital, it remains the holy city of the empire, and one of the three residences of the Sultan. It is the principal seat of the manufacture of marocco leather, which is prepared here in great perfection. *Mekinez*, one of the handsomest towns of Marocco, contains an imperial palace of great beauty and extent. *Tetuan* was ceded to Spain at the close of the recent war with Marocco. *Ceuta*, built on a hill which was known to the ancients as one of the Pillars of Hercules, has belonged to Spain since 1640. *Tangier*, a strongly fortified town, was ceded by the Portuguese to the British in 1662, who retained possession of it for 22 years. *Salée*, formerly noted for its piracy, is now sinking into decay. *Rabatt*, formerly the centre of the European trade with Marocco, exports wool and corn, and has manufactures of carpets. *Mogador*, the principal seaport of Marocco, maintaining regular communication with Southern Europe. *Tatta*, a great dépôt for the transit trade between Marocco and Central Africa. *Taflelt*, capital of a district in the S.E., which is used as a place of banishment for political offenders.

Capes, Islands, Gulfs, Lakes, and Straits.—See under "Africa."

Mountain System.—The Atlas range extends through the entire length of Barbary, from Barca on the E. to Cape Nun in Marocco, and

separates the great basin of the Mediterranean from the Sahara. It increases in elevation from E. to W., being in the S. of Tripoli only 2000 feet high; in Tunis, 4476 feet; in Algeria, 7673 feet; while in Morocco, Mount Miltain attains an elevation of 11,400 feet, or about 400 feet above the line of perennial snow. (See p. 199.)

Rivers.—Owing to the proximity of the Atlas range to the Mediterranean on the one hand, and on the other to the Great Desert, the rivers of Barbary are all comparatively small. The greater number of them are little more than winter torrents, the channels of which are dry during summer; while those which flow southward soon lose themselves in the sands of the Sahara, or terminate in salt lakes.

Climate.—The climate of North Barbary is temperate, the country being protected from the hot winds of the desert by the high ridges of Mount Atlas, and at the same time exposed to the cool sea-breezes. S. of the Atlas range the climate is tropical and the heat intense. Rain is frequent in winter, less copious during spring, and rarely seen in summer.

Products.—Iron, copper, and lead are abundant in Algeria, especially in the province Oran, where cinnabar or sulphuret of mercury is obtained in small quantities, besides extensive mines of nitre, salt, talc, and potters' clay. In Morocco the precious metals are confined to the province Sus, the principal silver mine being situated 150 miles S.W. of the capital. The Atlas range contains copper, iron, lead, antimony, and rock-salt; but few mines are wrought to advantage.

The northern slopes of Mount Atlas are clothed with dense forests of pine, oak, cork, white poplar, and wild olives. On the southern slope the lower ranges are covered with palm-trees, especially the date-palm, of which this is the true native region. The principal cultivated plants are wheat, maize, barley, millet, sorghum, tobacco, cotton, indigo, sugar-cane, henna, and saffron; with olives, dates, grapes, and the fruits of Southern Europe. The soil in the valleys has been always celebrated for its fertility; but so little is agriculture understood that large crops of corn are sometimes allowed to remain unreaped, while at other times many of the inhabitants die of famine. The animal kingdom comprises most of the species found in the rest of Africa, except the hippopotamus, rhinoceros, giraffe, zebra, and several species of monkey. (See under "Africa.")

Ethnography.—The inhabitants belong almost entirely to the Syro-Arabian stock, but consist of three distinct nations—the Berbers, Moors, and Arabs. (See under "Africa.")

The Berber *Language* forms a connecting link between the Shemitic and African families. The Moors and Arabs speak a dialect of Arabic called the Mongrebin, or Moorish Arabic. Islamism is the sole religion of the Berbers, Moors, Turks, and Arabs, who, to the number of about 10,000 annually, embark at Tangier and other Barbary ports in Liverpool merchant-ships for Alexandria, *en route* to Mecca, the holy city of the Mohammedan world. The negroes, who are very numerous, and mostly slaves, are generally pagans, Soudan being their native country.

THE SAHARA, OR GREAT DESERT.

Boundaries.—N., Barbary States; W., the Atlantic Ocean; S., Senegambia, Soudan, and Kordofan; E., Nubia and Egypt.

The Sahara extends from lat. 16° to 33° N., and from lon. 17° W. to 30° E. Its length from Cape Blanco on the W. to the Nile on the E., is about 2500 miles; its breadth varies from 1000 to 1200 miles. Its centre lies on the same parallel

as Cape Sable, the S. extremity of Florida, Assouan, Kurrachee, Moorshedabad, and Amoy.

Area and Population.—The area is estimated at 2,500,000 square miles, or two-thirds that of Europe; but the population does not probably exceed 1,000,000.

Surface.—The Sahara is the most extensive desert on the earth's surface. For hundreds of miles the eye only meets with bare sands in flats and hillocks, or with naked rocky tracts, destitute of vegetation, and seldom exhibiting any of the forms of animal life.

It is now ascertained that the desert is an immense table-land with an average elevation of from 1000 to 1500 feet, and surmounted in many parts, especially in the central and eastern portions, by minor plateaux, which not unfrequently attain to a height of from 4000 to 5000 feet. The only extensive low ground in any way connected with the desert is that which separates it from Morocco, Algeria, and Tunis, and which extends from the Gulf of Cades to the confluence of the Draha with the Atlantic—a distance of about 1400 miles. This immense valley, covered with salt lakes, and rivers flowing towards them, attains no greater elevation than from 500 to 1000 feet. The Sahara also abounds in low fertile tracts named *oases*, which are watered by perennial springs, and which not unfrequently support a numerous population. In general, they consist of the deep depressions which separate the lofty plateaux. The principal oases are Fezzan, S.E. of Tripoli; Air, or Asben, S.W. of Fezzan; Tuat, S. of Morocco; and Toudemi, S. of Tuat.

Climate.—Notwithstanding the extreme heat, which is almost insupportable by day, there is often great cold at night, and ice is frequently formed, owing to the excessive radiation.

Rain falls in torrents at very distant intervals, in some places not oftener than once in ten or twenty years. Even dew is unknown, owing to the ascending currents of heated air which dissolve the vapours, and disperse the passing clouds. The desert is also visited by a burning wind from the S. and E. called the *simoom*, which generally lasts ten or twelve hours, when the air is impregnated with fine sand, which almost suffocates the traveller; and the drought is so great as to dry up the water contained in the skins carried by the camels.

Products.—The only valuable mineral found in the desert is salt, vast rocks of which occur in its W. division.

Palm-trees grow on the borders of the Sahara; and the chief products of the oases are dates, gum, corn, and some vegetables. These require constant irrigation,—water being usually found by digging a few feet below the surface. The fauna of the Sahara is as deficient as its flora: the lion, panther, hyena, and some other wild animals, roam over the outskirts; the ostrich and gazelle penetrate farther into the interior; the land-tortoise is common in the S., where it attains to a great size; and lizards and serpents are numerous. The only beast of burden is the camel.

Ethnography.—Two nations of Berber origin, but divided into numerous tribes, are scattered over the entire desert—viz., the Tibbous in the E., and the Tuaricks in the W.

Fezzan is chiefly peopled by Arabs, Moors, and negroes. Mohammedanism is the only religion tolerated. Dialects of the Berber language—Tibboo, Tuarick, and Ghadamsi—are spoken by the Berber tribes; but Arabic, the language of the Korán, is also widely prevalent.

SENEGAMBIA.

Boundaries.—N., the Sahara; W., the Atlantic; S., Upper Guinea; E., Soudan.

Including the British settlement of Sierra Leone, it extends from lat. 8° to 17°

N., and from lon. 7° to 17½° W. Bathurst, the capital of British Senegambia, and on the central parallel, is in the same lat. as St Salvador, the S. shore of Lake Tchad, Mocha, Madras, and Udong.

Area and Population.—The area is probably about 250,000 square miles, or more than twice that of the British Isles. The population is variously estimated at from 8,000,000 to 12,000,000, but there are no reliable data to enable us to speak with precision. The state of Bondoo alone is said to have about 1,500,000 inhabitants, while the British possessions of Sierra Leone and Gambia contain about 62,000, and the French 116,000.

Political Divisions.—Besides the settlements of the British, French, and Portuguese, situated on the coast, and on the rivers Gambia, Senegal, and Jeba, there is a great number of small native states, peopled by tribes belonging to three great nations—viz., the Foulahs in the N.; the Jaloofs in the centre; and the Mandingoes in the S.

NATIVE SENEGAMBIA.—Sedo 6 (Guiloom, *aff.* Senegal), Boulibani 3 Bambouk n. (Falemé), Timbo 9 (Ba-Fing), Warneo n. (Gambia), Kamalia, Kemmoo (Voulima).

BRITISH SENEGAMBIA AND SIERRA LEONE.—Bathurst 7 (Gambia), Free Town 18 (Rokelle).

FRENCH SENEGAMBIA.—St Louis 15 (Senegal), Ft. Goree (W. coast).

PORTUGUESE SENEGAMBIA.—Bissao 8 (Jeba, an arm of Rio Grande).

Descriptive Notes.—*Sedo*, capital of Footatoro, on the Guiloom, in a beautiful fertile country, has 6000 inhabitants. *Boulibani*, capital of Bondoo, one of the most powerful states in Senegambia. *Timbo*, capital of Footajallon, a place of considerable antiquity, near the head-waters of the Senegal. *Warneo*, capital of the principal Jaloof state, which contains vast forests of gum-trees, and produces abundance of ivory, skins, and honey. *Kamalia*, capital of Manding, and *Kemmoo*, capital of Kaarta, the chief towns of the two principal states of the Mandingoes in Senegambia. *Bathurst*, a seaport town and capital of the British colony of Senegambia, on the island of St Mary, at the mouth of the river Gambia, exports gum, ivory, wax, hides, gold, tortoise-shell, rice, cotton, teak, palm-oil, and native cloths. The colony is under the jurisdiction of Sierra Leone, and is considered to be the healthiest settlement in Western Africa. *Free Town*, capital of the British colonial settlement of Sierra Leone, in the estuary of the Rokelle, was founded in 1787, with a view of suppressing the slave-trade in Western Africa. *St Louis*, capital of the French possessions, on an island at the mouth of the Senegal river, is the entrepôt of their trade, the principal article of which is gum. *Bissao*, an island and seaport town at the mouth of the Jeba, and the great stronghold of the Portuguese slave-trade.

Mountains.—The Fooladoo Mountains in the N.E. separate the basins of the Senegal and Joliba; the Tengui Mountains, between the Gambia and Rio Grande. The elevation of these ranges is unknown, but it does not exceed the limit of trees.

Climate.—The climate of Senegambia is extremely unhealthy for Europeans—the heat being intense, especially about the end of the dry season. The *Harmattan*, or dry hot wind from the Sahara, destroys vegetation, and cracks all articles made of wood as if they were exposed to the action of fire; but it arrests the progress of disease, and banishes the deadly fevers that prevail in the wet season.

Products.—Bambouk is celebrated for its rich gold-mines. The greater part of the mountains are mainly composed of ironstone, and the natives are acquainted with the art of extracting the metal.

Some of the more useful trees are the magnificent baobab or bread-fruit tree; the shea or butter-tree; the nimosa, from which the gum is obtained, and which forms the most important export of the country. The Portuguese have introduced the vine, fig, lemon, and citron; and the principal cultivated plants com-

prise maize, rice, millet, yams, bananas, indigo, and cotton. The elephant, hippopotamus, lion, leopard, panther, striped hyena, buffalo, wild-boar, deer, antelope, and monkeys, are the principal wild animals.

Ethnography.—The Foulahs are superior in intelligence and civilisation to the other intertropical tribes of Africa, except the Mpongwe of Lower Guinea; and in these respects stand in the same relation to the nations around them as did the Aztecs and Peruvians to the various tribes of the New World. They are generally classed as negroes, but in physical conformation they form an intermediate class between the true negro and the Asiatic type.

The different *Languages* spoken in the country—the Mandingo, Foulah, Jaloof, Susoo, and the Bullom—are all so closely related as to be considered dialects of the same tongue. The Mandingo, the type around which all the others cluster, and which is the most useful to traders along the coast, is characterised by copiousness, easy enunciation, and comparative freedom from nasal and guttural sounds (see under “Guinea”). With the exception of some Jaloofs who are pagans, all the natives profess the Mohammedan faith, and native schools for acquiring Arabic are numerous.

SOUDAN, OR NIGRITIA.

Boundaries.—N., the Sahara; W., Senegambia; S., Guinea and the unexplored countries of Central Africa; E., Kordofan. Lat. 9°–18° N., lon. 10° W.—28° E.

Kouka, near the centre of this immense region, on the S.W. shore of Lake Tchad, lies on the same parallel as St Salvador, Bathurst, Gondar, Madras, and Udong.

Area and Population.—The area is unknown, but probably approaches 630,000 square miles, or five times the area of the British Isles. The population is loosely estimated at about 40,000,000.

Political Divisions.—Nigritia is divided into a great number of independent states, the principal of which are the following:—

BAMBARRA.—Sego 30, Sansanding 10 (Joliba or Niger).

LUDAMAR.—Benown n. Yarra (an *affl.* Senegal).

BEROO.—Walet 20 (Gozen Zair, *affl.* Joliba).

MASINA.—Jenneh 10, Isaca (Joliba).

TIMBUCTU.—Timbuctu 20 n., Kabara (Joliba).

BORGOU.—Boussa 12, Kiama 20 n., Wawa 18 n. (Joliba).

YAOURI.—Yaouri (Joliba), Tabra 20, Koolfu 15 (Mayarrow).

GANDO.—Rabba 40, Eyeo 20 (Joliba), Fundah 30 n. (Chadda).

SOKOTO.—Sokoto 80 (Zirmie), Kano 30 (Komaduga).

ADAMAWA.—Yola or Jalo 10 (Chadda).

MANDARA.—Mora n., Delow 10 (Serbeuel, *affl.* Shary).

BORNOU.—Kouka 10, Angornou 30, New Birni 10 (Lake Tchad).

BAGIRMI.—Masena (Shary, *affl.* Lake Tchad).

KANEM.—Mao n., Berri (Lake Tchad).

WADI.—Wara 50 n. (Bat-ha, *affl.* Lake Fittre).

DARFUR.—Cobbe 6 (an oasis in the desert).

Descriptive Notes.—Sego, capital of Upper Bambara, is the seat of considerable traffic. Near this place Mungo Park first saw the Niger, July 1796. Benown, a principal caravan station on the route from Senegal to Timbuctu. Yarra: here Major Houghton, the African traveller, was killed in 1791. Jenneh, a large, well-built town on an island in the Joliba, and the seat of a great trade.

Timbuctu is the best-known place in Soudan, having been visited by many travellers: it is the principal entrepôt for the trade between Guinea, Senegambia, and Barbary. *Kabara*, the port of Timbuctu. *Boussa*: here Park was murdered by the natives while descending the river in a canoe. *Rabba*, a populous town, with an extensive trade in slaves and ivory. *Kano*, capital of the empire of the Fellatahs, has great trade, and manufactures of silk. *Sackatu*, the most populous and important city in Central Africa, has great trade with Guinea and Tripoli; it has important manufactures of blue cloths, and was the scene of Clapperton's death in 1827. *Yola*, near the Benué or Chadda, about 350 miles above its junction with the Joliba. Dr Baikie was the first European who visited this region; he navigated the river for 400 miles above its confluence with the Niger, and has thus opened a new highway for British commerce. *Kouta*, the capital of the powerful kingdom of Bornou. *Angornou*, the most important town in Bornou, is the centre of an extensive trade in slaves, cotton, amber, coral, and metals. *Warra* is described as large and populous, but it is little known to Europeans. *Cobbe*, in an oasis of the eastern desert, is a place of great resort for caravan merchants.

Mountains.—The Kong Mountains, 3000 feet high, between the Gulf of Guinea and the basin of the Niger, extend from Sierra Leone to the Joliba; Mount Alantika, 9000 feet, near the sources of the Chadda.

Lakes.—*Tchad*, in the centre of Soudan; *Fitté*, E. of Lake Tchad; *Debo*, on the Joliba, 200 miles S.W. of Timbuctu (p. 200).

Climate.—The climate of Western and Central Soudan considerably resembles that of Senegambia and Guinea; that of Eastern Soudan is still very imperfectly known. It is everywhere tropical and intensely hot; while the year consists of two seasons—the hot and the rainy.

The hot season continues from March to June, when the thermometer, at mid-day, stands in the shade at about 107°, and even during the night rarely sinks below 100°. The rainy season commences in June; violent thunderstorms rage, accompanied by heavy rains, cloudy weather, and a damp, sultry atmosphere; the rivers overflow their banks, and inundate large tracts of the country.

Products.—The only important minerals occurring in Soudan are iron and gold. The former is obtained from the ironstone so prevalent in all parts of the country. Gold dust is abundant in the rivers, and forms, with iron, ivory, and ostrich feathers, the principal exports across the desert.

In Western Soudan there are no forests, properly so called, but baobabs, sheas, cotton-trees, and nedés are numerous in many parts. In Central Soudan trees are scarce, except the palm-oil, cocoa-nut, and india-rubber trees; but other products are extremely various. Wheat succeeds in the more elevated tracts; but the grains generally cultivated are rice, maize, Guinea-corn, and millet. Cotton, tobacco, and indigo are grown in large quantities, as also yams, sweet potatoes, beans, melons, onions, plantains, and bananas. Date-trees are common to the E. of Lake Tchad. The hippopotamus and alligator are found in great numbers in the Joliba. Among other wild animals are the elephant, lion, tiger, hyena, tiger-cat, jackal, leopard, wild-hog, wolf, antelope, buffalo, wild-horse, wild-hog, zebra, squirrel, monkey, deer, and ostrich; while the domestic comprise the camel, goat, sheep, ass, horse, ox, and poultry.

Ethnography.—Soudan has been for ages immemorial the home and headquarters of the negro race: here the black man attains his highest physical development; here his mental and moral qualities are most easily studied; and here is seen the extent to which he has been enabled to go in the march of civilisation, without the teaching and influence of more highly-favoured races.

As existing in his own beloved Soudan, the negro is far from being that miserable-looking and degenerate creature which he seems to be when long subjected to the bondage and inhuman treatment of the white man. Though beyond doubt somewhat inferior to the Caucasian in mental endowments, he is fully his equal in stature and physical strength; while even intellectually he is greatly superior

to most of the native races of the other continents, especially those of Australia and America. His moral nature is indeed deeply degraded—a result, however, which is to be attributed more to his religion and geographical position than to any inherent ferocity of disposition. It is only by a stretch of language that the people of Central Africa can be called savages; for though they have not invented the art of writing, and nowhere possess a written alphabet, or even the picture-writing of other semi-civilised nations, they have nevertheless made considerable attainments in other useful arts. Agriculture, for example, is practised over the whole of Nigritia, though the plough is an implement unknown in their husbandry. They irrigate the land by artificial processes; various species of grain are raised; and in some places the produce of the field is stored in large granaries raised on poles as a security from insects. Oxen are reared in great numbers; cotton is everywhere grown, and indigo of the finest quality is produced in great abundance. Manufactures, though not numerous, are carried on with considerable skill and activity—the most important, by far, being that of cotton-cloth, which is beautifully woven by the women, and very tastefully dyed. They are able, moreover, to extract the iron from its native ore, and to convert it into many useful implements; and they evince skill and taste in the various ornaments of gold which they construct. The *Languages* spoken in Soudan, all of which belong to the Nigro-Hamitic group of Dr Krapf, are so closely allied to each other as to warrant us in regarding them as of one common origin. The great mass of the people are pagans, but Mohammedanism is professed by the numerous Arab tribes that have settled in the country.

G U I N E A.

THE term Guinea is applied to an immense region of Western Africa, extending along both sides of the gulf of that name from the eastern frontier of Sierra Leone to Cape Negro. It consists of two great divisions—viz., *Upper Guinea* in the N., between the Kong Mountains and the Gulf of Guinea (lat. 9° N.—0° 33' S.; lon. 12° 40' W.—12° E.); and *Lower Guinea* in the S., extending from the equator to Cape Negro (lat. 15° 50' S.), having the Atlantic Ocean on the W., and the unexplored regions of Central Africa on the E.

The equator, which separates Upper from Lower Guinea, passes through C. Lopez, L. Victoria Nyanza, the centre of the islands Sumatra and Borneo, Quito, and the mouth of the Amazon.

Area and Population.—The area is estimated at about 672,000 square miles, or five times the dimensions of the British Isles. The population is extremely uncertain, but probably amounts to about 20,000,000, or less than half the population of Great Britain.

Political Divisions.—The political divisions are fluctuating both in number and extent, but the following are the principal:—

UPPER GUINEA.

LIBERIA.—Monrovia 9 (St Paul).

GOLD COAST.—Cape Coast Castle 10 n., Elmina 10 n. (Chama).

ASHANTEE.—Coomassie 18 (Dah, *aff.* Chama).

DAHOMEY.—Abomey 30, Ardra 20 n. (Akini), Whyda 7 (coast).

YARIBA.—Abbeokuta 150 n. (coast), Egga, Kakunda (Niger).

BENIN.—Benin 15, Bonny 20 (Niger), Lagos 6 (coast).

EGGARA.—Idda or Attah 8 (Niger).

OLD CALABAR.—Bongo, Duke Town 6 (Calabar).

LOWER GUINEA.

BIAFRA.—Biafra (Donga), Adjumba (Gaboon).

LOANGO.—Loango 15, Mayumba, Cabenda (coast).

CONGO.—San Salvador 20 n., Punto de Lenha (Congo or Zaire).

ANGOLA.—St Paul de Loanda 12 (coast).

BENGUELA.—San Felipe de Benguela 3 (coast).

Descriptive Notes.—*Monrovia*, capital of a small but extremely interesting free negro republic, established in 1848 as a place of refuge for free blacks from the United States of America, and for captives released from slavers. Area, 20,000 square miles. Population, 200,000, about 50,000 of whom use the English language. *Cape Coast Castle*, the capital of the British settlements on the Gold Coast. The English first settled here in 1664, and the settlements now consist of numerous forts along the coast, erected and maintained at an enormous expense, for the purpose of mitigating the inhuman traffic in slaves. *Elmina*, the capital of the Dutch possessions on the Guinea coast, contains the strongest fort on the gulf. *Coomassie*, capital of the empire of Ashantee, the most powerful native state in Upper Guinea; area uncertain; population about 1,000,000. *Abomey*, capital of the kingdom of Dahomey, is a large populous town much resorted to by merchants from all parts of Africa in quest of slaves, palm-oil, ivory, &c., all of which are exported at *Whydah*, 90 miles distant. The inhabitants of Dahomey are extremely barbarous; human sacrifices are practised, and the most absolute and unmitigated tyranny prevails. Clapperton visited *Eyo* in December 1825, and gives an interesting account of his journey. The king boasted that his wives, linked hand in hand, would reach entirely across the kingdom. *Egga*, a large populous city, 70 miles above the confluence of the Niger and Chad. *Benin* was at one time the great emporium of the slave-trade in this region: near it, *Belzoni*, the traveller, died in 1823. *Abbeokuta*, capital of the kingdom of Egba, subject to Benin, and the most populous town in Guinea. In consequence of missionary operations, civilisation has made some progress here. *Lagos*, recently purchased by Britain, promises to be an important centre of commerce and civilisation. *Atia* carries on extensive manufactures in cotton-cloth, tanning, and iron. *Bongo* or *Old Calabar* is the capital of the kingdom, but *Duke Town* is the principal seat of commerce. *Loango* is 10 miles in circumference, and contains about 15,000 inhabitants. *Mayumba*, a great slave-market on the coast. *San Salvador*, a large town near the Congo or Zaire, and the residence of a chief who claims supremacy over several petty states in the neighbourhood. *Punto de Lenha*; here are numerous Portuguese, English, and American cotton-factories. The wild cotton, growing in abundance, is of good quality, and easily separated from the seed. *St Paul de Loanda*, capital of the Portuguese dominions in Western Africa, has a good harbour, and exports slaves and ivory; cotton is also exported, and its cultivation encouraged by the present governor. *San Felipe de Benguela*, a seaport town, and the Portuguese capital of Benguela. Its principal inhabitants are slave-dealers.

Mountains.—The Kong Mountains, in Upper Guinea, 2500 feet high, separate the G. of Guinea from the basin of the Niger; the Cameroon Mountains, near the Bight of Biafra, between the Calabar and the Donga, Mount Albert, 13,129 feet.

Climate.—The climate of Upper Guinea is tropical, and not essentially different from that of Senegambia and Nigritia. The coasts are low and unhealthy, and the heat very great, though less intense than in the regions farther north. The maritime regions of the whole of Lower Guinea are very pestilential, owing to the constant evolution of sulphuretted hydrogen gas given out by the mud and detritus borne down by the rivers.

The year is divided into two seasons—a wet and a dry; the former commencing early in June, when the quantity of rain that falls is inconceivably great. It is followed by a short foggy season, of about two or three weeks' duration, which is extremely deleterious to human life. The dry season commences in November, and continues till May.

Products.—The only important mineral production of Upper Guinea is gold, which abounds chiefly in Ashantee. It is found not only in the form of dust, but also in large nuggets, by digging from five to nine feet. In Lower Guinea are found gold, silver, lead, copper, sulphur, and petroleum. The fauna and flora are in general the same as in Senegambia and Nigritia.

Ethnography.—The people are all of the negro race, and generally in a very low stage of civilisation. Their religion consists of various forms of paganism (chiefly Fetichism), except the Mandingo tribes in the extreme W., who are Mohammedans, and certain tribes in Angola and Benguela who have embraced a spurious form of Christianity from the Portuguese colonists. Slavery and polygamy are everywhere prevalent, human sacrifices are practised by several tribes, and morality is at its lowest ebb. Here, as also in Soudan, the various states are constantly at war with one another, for the sole object of capturing prisoners, who are sold as slaves.

The **LANGUAGES** are numerous, but those in Upper Guinea may be reduced to five distinct groups or families, which have few characteristics in common; while those of Lower Guinea all belong to one family, the dialects of which are spoken throughout all Southern Africa, from the Atlantic to the Indian Ocean, and from the sources of the Nile to Cape Colony.

The River-System of Senegambia, Guinea, and Soudan.

Basins inclined to the Atlantic Ocean.

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Senegal,	FT. ST LOUIS, Timbo.	NIGER (continued).	Kiama, n., Wawa,
Gulloom, l.....	SEDO.		n. BOUSSA, YAOUBI, TIMBUCTU, n.,
Ba Falemé, l....	Fatteconda, n., Bouli-		Kabara, Isaca,
	bani, BAMBOUK, n.		JENNEH, Sansanding, SEGO.
Voulima,	Kemmoo, n., Kama-		
	lia.	Chadda, l.....	Funda, n., YOLA.
Gambia,	BATHURST.	Mayarrow, l....	Tabra, Koulfu.
Rio Grande,	Cacheo, Bissao.	Zirnie, l.....	Sokoto.
Rokelle,	FREE TOWN.	Gozen Zair, l....	WALET.
St Paul,	MONROVIA.	Calabar,	BONGO, Ephraim
Chama,	ELMINA, n., CAPE		TOWN.
	COAST CASTLE, n.	Donga,	BIAFRA.
Dah, l.....	COOMASSIE.	Gaboon,	Adjumba.
Akini,	Ardra, ABOMEY.	Zaire or Congo, ..	SAN SALVADOR, n.,
NIGER or JOLIBA, BENIN, BONNY, Da-			Punto de Lenha.
muggo, ATTAK,		Coanza,	Copelle, Bihé, n.
Kakunda, Egga,			
EYE, n., Rabba,			

Basin of Lake Tchad.

Komaduga,	KANO.	Co. L. Tchad,	KOUKA, Angornou,
Shary,	Masena.		New Birni, Berri,
Serbeual,	Delow, MORA, n.		MAOO.

COUNTRY OF THE HOTTENTOTS.

Boundaries.—N., Benguela; W., the Atlantic; S., Orange River; and E., the Great Fish River and the country of the Bechuānas. Lat. 16°—28° 30' S.

Area and Population.—The area is roughly estimated at 1,000,000

sq. m., or eight times the size of the British Isles; the population is wholly unknown, but probably amounts to 10,000,000.

Surface.—The coast consists for the most part of low, sandy plains; the interior, extending on the east to the confines of the Kalahari Desert, is elevated and mountainous. The chief rivers are the Swakop, flowing into Walvisch Bay, and the Orange, with its tributary the Oup or Great Fish River. The soil is in general light, sandy, and thinly clothed with tufted grass. Rain is rarely seen in this country, and the inhabitants frequently suffer great hardships from the want of water.

Divisions.—Numerous tribes of Hottentots occupy this extensive region, among which may be mentioned the Ovampo and Damaras, north of the Swakop; the Bosjesmans or Bushmen, and the Great and Little Namaqua, between the Swakop and the Orange, and extending into the British territory. Properly speaking, there are no towns; but the villages or *kraals*, reared of twigs and earth, or of a few poles covered with skins, are numerous—the principal of which are Ondonga in the north, Barmen and Wesleyvale in the centre, and Bethany in the south.

Ethnography.—The Hottentots, who in all probability formed the aborigines of the southern part of Africa, and who are now the only really nomadic race in this part of the continent, are distinguished from the other neighbouring races—the Negroes, Bechuanas, and Kaffres—by numerous striking characteristics, and are generally regarded as the most deformed and repulsive section of the human family.

They are extremely lazy and indolent in their habits, and never cultivate the soil. Some of the tribes derive their subsistence from roots, gums, and a kind of bread which they make of the pith of the palm-tree; others feed on ants, spiders, snails, caterpillars, and dried locusts; and others still, on the produce of their cattle or of the chase. They are singularly destitute of the devotional feeling. Such of them as can be said to have any religion are Fetichists; but not a few have embraced Christianity. The Hottentot language, properly so called, is now nearly extinct, but it is represented by the Namaqua and other dialects, which together form the "Click family," said to possess several affinities with the tongues prevailing north of the equator and beyond the Kaffre area.

SOUTH AFRICA.

Boundaries.—N., the Orange and Limpopo Rivers; W., the Atlantic; S. and E., the Indian Ocean. Lat. $21^{\circ} 40'$ — $34^{\circ} 47'$ S.; lon. 17° — $32^{\circ} 45'$ E.

Cape Town, the capital of Cape Colony, is situated nearly on the same parallel as Valparaiso, Buenos Ayres, and Sydney; and on the same meridian as Stockholm, Danzig, Buda, Mostar, and Otranto.

Area and Population.—The area is estimated at about 410,000 square miles, or thrice the size of the British Isles. The population is very uncertain, but probably does not much exceed 1,509,560, including 566,000 in Cape Colony and 315,000 in Natal.

Political Divisions.—Cape Colony and Natal (including Basutu Land, which was annexed to it in 1868) are colonial possessions of Great Britain. The small native states of Kaffraria and Zululand, along the E. coast, (N. and S. of Natal), are governed by native Kaffir chiefs; while the Orange River Free State and the Transvaal Republic are states formed by

Dutchmen from Cape Colony, who, dissatisfied with British rule, crossed the Orange in 1835, and have since formed themselves into two independent republics; the first-named was annexed to Cape Colony in 1871. That colony now embraces 23 districts or two provinces.

CAPE COLONY: WESTERN PROVINCE.—CAPE TOWN 25 (Table Bay), Stellenbosch 4 (False Bay), Paarl 4 (Berg), Swellendam 2 n., Worcester 2 (Breede), Clanwilliam n. (Olifant's River), Beaufort 6 (Gauritz), George Town 2 n. (S. coast).

EASTERN PROVINCE.—UITENHAGE 5 n., Port Elizabeth 5 (Algoa Bay), Graaf Reynet 4 (Sunday's River), Colesberg n. (Sea Cow), Cradock, Somerset (Great Fish River), Graham's Town 6 (Cowie), Queenstown (Great Kei), William's Town (Buffalo).

NATAL.—PIETERMAURITZBURG 5 n., D'Urban 3 (E. coast).

KAFRARIA.—BUTTERWORTH n., (S.E. coast).

ORANGE RIVER DISTRICT.—BLOEMFONTEIN n., PHILLIPOLIS n. (Orange).

TRANSVAAL REPUBLIC.—POTCHEFSTROOM (Vaal, affl. Orange).

ZULU LAND.—No towns.

Descriptive Notes.—*Cape Town*, capital of the British possessions in South Africa, was founded by the Dutch in 1651, and has all the appearance of a Dutch town. The population is composed of Dutch, English, Negroes, Malays, and Hottentots. The town is strongly defended by a citadel and other forts. *Port Elizabeth*, the principal shipping port for the Eastern province, is fast rising into importance. *Graham's Town*, 600 miles E. of Cape Town, is the seat of government for the eastern province. *William's Town* has the aspect of an English village. *Pietermaritzburg* is neatly laid out in the form of a parallelogram, but only partially built. *D'Urban*, formerly *Port Natal*, on the N. shore of a fine inlet of the ocean, is the port of the colony, and is rapidly rising in importance. *Potchefstroom*, cap. of the Transvaal Republic, is a small town on the Vaal.

Surface and Mountains.—The country consists of a series of plateaux rising in successive terraces from S. to N., and separated by mountain-chains. The only passage from one of these terraces to another is by narrow and difficult mountain-gorges, named *Kloofs*, some of which have been made available for wheeled carriages. The mountain-chains are three in number, and parallel to each other, as also to the S. and S.E. coasts.

1. The **SWELLENDAM MOUNTAINS**, of moderate elevation, proceed from Table Mountain, in the Cape district, for 200 miles eastward, and at an average distance of 20 miles from the south coast. Height of Table Mountain, 3582 feet. It owes its name to its peculiar form, which resembles a table in shape, and having a flattened summit. It is often covered with a white mist, locally named "the Table-cloth." 2. The **ZWARTE** or **Black Mountains**, about 30 miles farther inland, attain an elevation of 4000 feet. 3. The **NORTHERN CHAIN**, which forms the watershed between the basin of the Orange and those of the other rivers of the country, receives different names in its course from W. to E., as *Roggeveld* in Clanwilliam, *Nieuveland* in Beaufort, *Sneeuw Bergen* in Graaf Reynet, and *Drakensberg* in Kaffirland and Natal. Compass Berg, in the Sneeuw Bergen range, 10,250 feet high, is the loftiest summit in all South Africa.

Rivers.—These are numerous, but being generally very small, and interrupted by rapids and sandbanks, they are not navigable; and their beds being considerably depressed below the general surface, they are ill adapted for the purposes of irrigation, while many of them are quite destitute of water in the dry season. The following are the principal:—

The *Orange River* or *Gartiep*, in the N., separating the colonial territory from the interior: its principal branch, the *Vaal*, rises in the Drakensberg Mountains, at an elevation of 10,000 feet above the sea. The river pursues a general W. course of 1000 miles, and falls into the Atlantic after receiving the *Great Fish* and *Vaal* on its right, and the *Hariebest* and *Brak* on the left. *Olifant* or *Elephant River* enters the Atlantic midway between the Orange and Cape Town. The *Breede*, in

Worcester and Swellendam, enters the Indian Ocean at Fort Beaufort: it is one of the largest and deepest rivers of the colony, but its navigation is impeded by a sandbank at its mouth. The *Sunday River*, from Graaf Reynet, falls into Algoa Bay. The *Great Fish River*, between Albert and Victoria, and the *Great Kei*, between British and Native Kaffraria, flow S.E. to the Indian Ocean.

Climate.—The climate is mild but very dry, remarkably free from epidemic diseases, and favourable to persons afflicted with pulmonary complaints. The climate of Natal is unrivalled for its salubrity.

On an average about 22 inches of rain fall annually at Cape Town; but the interior and W. coast are almost without a parallel for dryness. In the Great Karoo Desert no rain falls sometimes for three years in succession. Snow falls only on the mountains. The hottest months are December and January, when the thermometer sometimes rises to 94°; while in the coldest months, June and July, it descends to 57°.

Products.—Immense deposits of gold were discovered in 1868 on the Limpopo. More recently a very valuable diamond field has been found on the Vaal, between the Orange River State and the Transvaal Republic. Rich copper ore is found near the mouth of the Orange, and salt deposits occur in several places.

The flora is of a peculiar and varied character, rich in forms, but not luxuriant. There are no large forests, except in Natal, where many of the valleys are clothed with magnificent pines; but heaths are more numerous here than anywhere else. No fewer than 400 species are enumerated. Table Mountain is remarkable for the *Disa grandiflora*, a splendid flowering plant not known to occur in any other locality. There are few native plants useful to man found in the colony, but many such have been introduced, as the European cereals, fruits, and esculent vegetables. More corn is raised than is necessary for consumption, and the cultivation of the vine is an important source of wealth. A vineyard at the foot of Table Mountain produces the celebrated liqueur named *Constantia*. Colonisation has driven many of the larger wild animals beyond the north frontier, but the lion, hyena, buffalo, hippopotamus, and zebra, are occasionally seen; the rhinoceros is rarely met with, and the elephant has retreated beyond the Orange.

Ethnography.—Of the 536,000 inhabitants of Cape Colony, nearly a half are Europeans, the remainder being Hottentots, Kaffres, and a mixed race that have sprung from the union of the aborigines with the early Dutch settlers. The Hottentots are mostly employed as herdsmen and farm-servants; but the Kaffres are bold and warlike, and show little inclination for labour of any kind.

Cape Colony was settled by the Dutch in 1652, but was taken by the English in 1795. During the last fifty years its resources have been greatly developed, and its area correspondingly enlarged. The chief drawback to the prosperity of the colony is the numerous wars in which the settlers are engaged with the Kaffre tribes on the eastern and northern frontiers, who make periodic incursions into the British territory, plundering the cattle, and otherwise disturbing the colonists. The descendants of the early Dutch settlers, who now form the minority of the white population, are commonly called *boers*. Emigration from the mother-country does not proceed very rapidly, except in Natal, and there is great demand for labour, especially in the eastern half of the settlement. The commerce is considerable and rapidly increasing. The principal exports are wool, wine, aloes, copper ore, hides, corn, dried fish, fruit, horses, and ostrich feathers. A comprehensive system of education, embracing primary and classical schools, was instituted by the Government in 1839. The English language alone is used in the courts of law, but Dutch is also taught in Government schools. The majority of the colonists are Protestants, belonging either to the English Church, or to the Dutch Reformed, but Wesleyan Methodists are also numerous. The government is vested in a legislative council, consisting of five official members, including the governor, who is appointed by the Crown, and five unofficial members, inhabitants of the colony, who are nominated by the governor. Natal has been an independent British colony since 1856, and is flourishing at a very rapid rate. In 1870 the exports were valued at £383,000, and the imports at £430,000.

EAST AFRICA.

UNDER this designation are comprehended all the countries on the eastern side of the continent lying between the mouth of the Limpopo and the Gulf of Aden, and extending westward to the great lakes recently discovered, and the Transvaal Republic. It thus extends from lat. 26° S. to lat. 12° N., embracing a coast-line of upwards of 3500 miles, with a breadth varying from 200 miles in the S. to 800 miles in the N.

Area and Population.—These cannot be given with any approach to accuracy; but multiplying the length by the average breadth, we have an area of upwards of 2,779,000 square miles; while the total population may be roughly estimated at 37,000,000.

Political Divisions.—In the extreme south, and contiguous to the colony of Natal, is the native state of Kafirland or Amazula. Next to this are the settlements of the Portuguese, whose authority is now confined to the maritime districts of Sofala and Mozambique. The greater part of the seaboard N. of the Portuguese dominions is tributary to the Sultan of Muscat, whose capital, Shanganny, is situated in the populous island of Zanzibar. Still farther N. are Ajan and the Somaui country, extending to the Gulf of Aden. The interior—till recently a *terra incognita*—has been traversed within the last few years and admirably described by Livingstone in the S., and by Captains Burton, Speke, and Grant, in the region lying immediately S. of the equator, between the coast of Zanguebar and the 30th meridian.

AMAZULA or KAFIRLAND.—Lorenzo Marquez (Delagoa Bay).

SOFALA.—Sofala 3 (coast), Sena, Teté 4 (Zambezé).

MOZAMBIQUE.—Mozambique 6 (coast), Quillimané (Zambezé).

ZANGUEBAR.—Shanganny 60 (Zanzibar), Quiloa, Mombas, Melinda, Brava 5, Magadexo 4 (Indian Ocean).

AJAN and SOMAUI.—Bad (E. coast), Berbera (Gulf of Aden).

GALLA COUNTRY.—Harur 1 (Webbe), Zeyla 1 (Gulf of Aden).

COUNTRIES IN THE INTERIOR.—Estimated area, 1,866,000; population 1,500,000. Fuga 3 (Pangani), Zungomero (Kingani), Ugogi n. (Rufiji), Kazé, capital of Unyamuezi (*qñ*. L. Tanganyika), Kawele or Ujiji (E. coast of L. Tanganyika), Muanza (S. coast of L. Nyanza), Gondokoro (White Nile).

Descriptive Notes.—*Sofala*, capital of a Portuguese government of same name, is supposed by some to be the Ophir of King Solomon—it being the port of Manica, the best gold country in Eastern Africa. It consists chiefly of mud huts, and is protected by a fort. *Sena* or *Senna*, midway between Teté and Quillimané, was the former capital of the Portuguese dominions in Eastern Africa, but is now in a ruinous condition. *Teté* or *Tetté*, capital of a Portuguese government, now much declined from its former prosperity, contains a fort with a few guns. Gold dust in small quantities is found in the vicinity, together with rich seams of coal and some ironstone. *Mozambique*, a fortified maritime city, and the capital of the Portuguese possessions in Eastern Africa, exports ivory, gold dust, and slaves brought down from the regions of the Upper Zambezé. *Shanganny*, capital of the Imam of Muscat's possessions on the E. coast of Africa, contains a wooden fort, and carries on a considerable trade with Arabia and the ports in the Red Sea, exporting ivory, sharks' fins, sandal-wood, amber, shells, and coconuts. It is very unhealthy for Europeans, the annual fall of rain being about 100 inches. *Quiloa* is the principal town of a province of same name under the rule of the Sultan of Muscat. *Mombas* and *Melinda*, small towns on islands near the shore, were visited by Vasco de Gama in 1497. *Magadexo*, capital of a state which is subject to the Sultan of Muscat, is the chief commercial entrepôt between Cape Guardafui and the river Juba. *Berbera*, a seaport station in the Somaui country, has a great annual fair frequented by merchants from Arabia, India, and

other parts of Asia. *Harur*, the principal place of the Galla country, exports coffee in great quantity. *Zeyla*, the port of Harur. *Fuga*, the chief town in Uambara, is an unwalled town, 4500 feet above the sea-level. Its ruler or sultan is a thorough despot, selling his subjects in families and villages, without remorse. *Kasé*, though a mere collection of huts, is said to be the chief seat of commerce in South-eastern Africa.

Capes, Islands, Mountains, Rivers, Lakes.—See under "Africa."

Climate.—South of the Tropic of Capricorn, or in the region extending from Natal to Cape Corrientes, the climate approaches closely to that of Cape Colony; everywhere else it is tropical, and is characterised by extreme heat, periodical rains, and great insalubrity. At Zanzibar, the principal rainy season extends from the middle of April to the 28th of May; but in the region immediately S. of Lake Nyanza the rainy season commences on 15th November and ends on 15th May.

Products.—The principal minerals hitherto known to exist in this region are gold dust, which is found in small quantities in Mozambique and Sofala; copper, rich seams of coal, and good ironstone in Mozambique; and amber in Zanguebar.

The flora of that portion of the mainland which lies S. of the Tropic of Capricorn resembles that of Cape Colony; while the entire intertropical portion, together with the island Madagascar, both as regards its flora and fauna, will be found described under "Africa."

Ethnography.—The natives of the eastern coasts of Africa, and inwards as far as the great lakes, are regarded by Burton and Speke as belonging to the great South African family, and as occupying a mean position between the Syro-Arabian races of the Barbary States and the aborigines of Central Negroland.

They are closely allied by blood, language, and other analogies, to the natives residing in the basin of the Zambezi; and extend from Cape Delgado to the equator, where they come in contact with the Gallas and Somauli. "They are all," says Captain Burton, "similar in appearance and cognate in idiom, although the difference of vocabulary renders neighbouring tribes unintelligible to each other." The group of dialects spoken by them has been termed the Zangian family of languages, which radically differs from the Syro-Arabian on the one hand, and the Nigro-Hamitic on the other (see p. 202). Interiorly, they extend, according to Burton, into the central regions of intertropical Africa. The Gallas and Somauli belong to Krapf's Nilotic class. Arabs are numerous in the dominions of the Imam of Muscat, while a few Europeans are found in the Portuguese territories.

NORTH AMERICA.

Boundaries.—Including Greenland and Central America, this large division of the globe is bounded on the N. by the Arctic Ocean; on the W. and S. by the Pacific; and on the E. by the Isthmus of Panamá, the Caribbean Sea, the Gulf of Mexico, and the Atlantic Ocean. Lat. 7°—82° N.; lon. 20°—168° W.

The mainland rarely extends farther north than the 70th parallel, being separated from the great American Archipelago by Hudson Strait, Fox Channel, Gulf of Boothia, Bellot Strait, Franklin Channel, Victoria Strait, Dease Strait, and Coronation Gulf; nor farther east than Cape Charles in Labrador, in lon. 55° 30' W. Great Salt Lake, near the centre of this area, is on the same parallel of latitude with New York, Madrid, Rome, Constantinople, and Pekin; and on the same meridian as Great Slave Lake, Cape San Lucas, and Easter Island in Poly-

nesia. The continental part is rudely triangular, with the base directed towards the north. The extreme length, from the Isthmus of Panamá to Cape Lisburn, in Russian America, is about 5600 miles; the extreme breadth, from Cape Canso, in Nova Scotia, to the mouth of the river Oregon, 3120 miles. Murchison Promontory, in Boothia Felix, lat. 72°, is the most northern point of the continent; Cape Prince of Wales, in Behring Strait, lon. 168° W., the most western; Mariato Point, in the Bay of Panamá, lat. 7° 15', the most southern; and Cape Charles, in Labrador, lon. 55° 30' W., the most eastern. Including the larger indentations, the coast-line is estimated at about 24,000 miles, or 1 mile of seaboard for every 865 miles of surface; while Europe has 1 for every 225 miles.

Area and Population.—The area is still very uncertain, but, including Greenland, the West Indies, and Central America, it is estimated at 8,355,680 square miles, or $2\frac{1}{4}$ times the size of Europe, and 70 times that of the British Isles. The population, according to the most recent census of the various states, amounts to 58,018,111, or a little more than a fifth part of the population of Europe, and giving less than six persons to each square mile.

Political Divisions.—The total number of separate and independent states is about 75; but if we regard the United States, the Mexican Confederation, and Central America, as one state each, the number will be reduced to seven.

TABLE OF NORTH AMERICAN STATES.

NAME.	Area in Eng. Square Miles.	Population at last Census.	Capital.	River, &c., on which the Capital stands.
N.W. America *	577,000	75,000	New Archangel	Sitka Island.
British N. America	3,524,094	3,549,563	Ottawa, &c.	Ottawa.
Danish America . .	380,000	9,892	Julianshaab	S.W. Coast.
United States . .	2,819,811	38,575,000	Washington	Potomac.
Mexico	773,125	9,173,052	Mexico	L. Tezcuco.
Central America . .	188,000	2,665,000	New Guatemala, &c.	Montagua.
West Indies . .	93,650	3,970,604	Havana, &c.	N.W. Cuba.
Total	8,355,680	58,018,111		

Surface.—The surface consists of three very dissimilar regions—an eastern, a central, and a western. The first extends from the Atlantic to the Alleghanies and Watchish Mountains, and from the Gulf of Mexico to Hudson Strait. It is about 2500 miles long, has an average breadth of from 150 to 200 miles, except in Labrador, where it exceeds 400 miles; and, except at the bases of the mountains, has an elevation above the sea of only 500 feet.

The Second Region, or great Central Plain, extends from the Alleghanies to the eastern slope of the Rocky Mountains, and from the Arctic Ocean to the Gulf of Mexico. A crescent-shaped watershed about the parallel of 48°, and of about 1500 feet in elevation, divides it into two great slopes—a northern and a southern. The former has an average elevation of from 500 to 700 feet, Lake Superior, in the south, being only 627 feet above the sea, and the basin of the Saskatchewan not much higher. The southern slope mainly consists of the huge basin of the Mississippi, the highest part of which does not exceed 850 feet, while its average height is only about 500 feet. The Western Region, extending from the Central Plain to the Pacific Ocean, consists almost exclusively of elevated plateaux of from 3000 to 5000 feet in height, supporting gigantic mountain-chains that extend without interruption from the Arctic Ocean to the vicinity of Lake Nicaragua in Central America.

Peninsulas and Isthmuses.—The principal peninsulas are Labrador

* This territory, now called Alaska, was sold to the United States in 1867,

and Nova Scotia on the E. side of British America; Florida, between the Atlantic and Gulf of Mexico; Yucatan, between Gulf of Mexico and the Caribbean Sea; Lower California, separating the Pacific Ocean from the Gulf of California; Alaska, separating the Pacific Ocean from the Sea of Kamtochatka. Isthmus of Chignecto, connecting Nova Scotia with the continent; Isthmus of Tehuantepec, 130 miles wide, separating the Gulf of Mexico from the Pacific Ocean; Isthmus of Panamá, 30 miles wide, connecting Central with South America.

Capes.—Farewell, S. of Greenland; Chudleigh and Charles, N.E. and S.E. of Labrador; Race, S.E. of Newfoundland; Sable, S.W. of Nova Scotia; Cod and Hatteras, E. of United States; Sable, S. of Florida; Catoche, N.E. of Yucatan; Gracios a Dios, E. of Honduras; Corrientes, W. of Mexico; St Lucas, S. of Lower California; Mendocino and Blanco, W. of the United States; Newenham, Romanzoff, Prince of Wales, and Lisburne, on the W. coast; Icy Cape and Point Barrow on the coast of North-West America; Cape Bathurst and Murchison Promontory, N. of Hudson Bay Territory.

Islands.—The islands of North America may be conveniently arranged under three heads, corresponding with the three oceans in which they are respectively situated.

In the Arctic Ocean.—Greenland, N.E. of British America, from which it is separated by the Greenland Sea, Davis Strait, Baffin Bay, South Sound, and Kennedy Channel; the Parry group, including Grinnell Land or Ellesmere (lat. 76° 30'—81° 30'), North Devon, Cornwallis, and Melville Island, W. of Northern Greenland; Banks Land, Prince Albert Land, Prince of Wales I., N. Somerset, and Cockburn I., between the Parry Is. and the mainland. *In the Atlantic.*—Newfoundland, Anticosti, Prince Edward I., and Cape Breton, S. of Labrador; Long Island, S.E. of New York; the Bermudas, 600 miles E. of South Carolina; the West Indies, between Florida and South America, and embracing two minor groups—viz., the Bahamas, S.E. of Florida, and the Antilles, S. of the Bahamas, separating the Atlantic from the Caribbean Sea. *In the Pacific.*—Vancouver I. and Queen Charlotte I., W. of British America; Prince of Wales I., Sitka, Kodiak, and Aleutian Archipelago, S. of North-West America; Clark I., in Behring Strait.

Seas, Bays, and Straits.—Baffin Bay and Davis Strait, between Greenland and the North American Archipelago; Hudson Strait, between Labrador and the Archipelago; Hudson Bay or Sea, W. of Labrador; Fox Channel, Gulf of Boothia, Bellot Strait, Victoria Strait, Coronation Gulf, and Prince Albert Sound, between the mainland and the Archipelago; Lancaster Sound, Barrow Strait, and Melville Sound, separating the Parry group from the southern part of the Archipelago; Strait of Belleisle, between Labrador and Newfoundland; Gulf of St Lawrence, between Newfoundland and New Brunswick; Bay of Fundy, between Nova Scotia and New Brunswick; Chesapeake Bay, in Virginia and Maryland; Gulf of Mexico, between Mexico and the United States; Yucatan Channel, between Yucatan and Cuba; Caribbean Sea, between Central America and the West Indies; Bay of Panamá, S.W. of Central America; Gulf of California, W. of Mexico; Strait of Juan de Fuca, between United States and Vancouver I.; Queen Charlotte Sound, between Vancouver and British Columbia; Cook Inlet and Bristol Bay, S. of N.W. America; Behring Strait, between N.W. America and Siberia.

Mountains.—The mountains of North America arrange themselves into two grand systems—an eastern and a western—which are separated from each other by the great central plain already described (p. 223).

THE ALLEGHANIES OR APPALACHIAN CHAIN, 2000 miles in length by about 150 miles in breadth, extend from Point Gaspé in the Gulf of St Lawrence to the State of Alabama, and divide the waters which flow eastward into the Atlantic

from the two great basins of the Mississippi and the St Lawrence. Average elevation, about 2500 feet; highest summits—Mount Washington, in New Hampshire, 6428 feet; Black Mountain, between Tennessee and North Carolina, 6420 feet; and Green Mountains, in Lower Canada, 4000 feet.

THE WESTERN OR PACIFIC SYSTEM, better known as the ROCKY MOUNTAINS, consists of two, and in some places of three, parallel chains, supported by elevated table-lands, and extending in the direction of the greatest length of the continent, from the Arctic Ocean to Lake Nicaragua in Central America. The two principal ranges with their highest summits are the following:—1. The PACIFIC OR OCEANIC RANGE, extending along the western coast, from North-West America to the peninsula of California, forms the watershed between the Pacific Ocean on the west, and the Youcon and Rio Colorado on the east. Its principal members are: *The Sea Alps* in the north, extending from lat. 60° in North-West America to the mouth of the Frazer River in British Columbia, of volcanic origin, and forming some of the highest summits in this continent,—Mt. St Elias, 14,970 feet; Mt. Fairweather, 14,782 feet. *The Cascade Range*, from the mouth of the Frazer to Cape Blanco, in Oregon,—Mt. St Helens, N. of the Columbia, the highest summit of the United States, 15,750 feet; Mt. Hood and Mt. Jefferson, S. of the Columbia, 15,500 feet. *The Sierra Nevada*, extending from Cape Blanco to Cape San Lucas, and separated from the eastern range by the basin of the Rio Colorado,—Mt. Tsashti, in the N. of California, 14,400 feet. 2. The ROCKY MOUNTAIN CHAIN forms a waving line along the eastern side of the great table-land, from the mouth of the Mackenzie in the Arctic Ocean to near Lake Nicaragua in Central America, and separates the basins of the Colville, Youcon, Frazer, Columbia, and Rio Colorado on the west, from those of the Mackenzie, Saskatchewan, Missouri, Arkansas, and Rio del Norte on the east. Its principal members are: *The Northern Range*, extending from the Northern Ocean to the northern frontier of the United States,—Mt. Brown, east of British Columbia, and the culminating point of British America, 15,990 feet; Mt. Hooker, 15,700 feet. *The Wind River Mountains*, between Oregon and Nebraska; highest summit, Freemont's Peak, 13,569 feet. *Sierra Verde and Sierra Madre*, in Utah and New Mexico,—Long's Peak, 12,000 feet; Bighorn, 10,000 feet. *Mountains of Anahuac*, in southern Mexico, extending from east to west across the table-land, and all volcanic,—Orizaba, an extinct volcano, 17,847 feet; Popocatepetl, the highest summit of North America, 17,729 feet; Agua, in Guatemala, 15,000 feet.

River-Basins and Capitals.—The rivers of North America belong to four great oceanic basins—viz., those inclining to the Atlantic, to the American Mediterranean (the Gulf of Mexico and Caribbean Sea), to the Pacific, and to the Arctic Ocean. Not a few of the larger river-basins enumerated in the following table contain no capitals, while the area of several others remains undetermined. When the name of the state differs from that of the capital, it is put within parentheses:—

NAME OF RIVER OR ESTUARY.	Length of Basin in Eng. Miles.	Area in Geographical Sq. Miles.	Capitals of States and Provinces.
<i>Basins inclined to the Atlantic.</i>			
St Lawrence, .	1400	297,600	Ottawa (Canada), Montpelier (Vermont), Lansing (Michigan).
Connecticut, .	280	8,000	Hartford (Connecticut).
Hudson, .	210	7,000	Albany (New York).
Delaware, .	290	8,700	Trenton (New Jersey).
Chesapeake, .	450	12,000	Annapolis (Maryland), Harrisburg (Pennsylvania), Richmond (Virginia), WASHINGTON (U. States).

NAME OF RIVER OR ESTUARY.	Length of Basin in Eng. Miles.	Area in Geographical Sq. Miles.	Capitals of States and Provinces.
2. Basins inclined to the American Mediterranean.			
Mississippi, .	1820	982,400	Baton Rouge (Louisiana), St Paul (Minnesota), Little Rock (Arkansas), Nashville (Tennessee), Indianapolis (Indiana), Frankfort (Kentucky), Columbus (Ohio), Jefferson City (Missouri), Lecompton (Kansas), Springfield (Illinois), Fort Union (Nebraska), Iowa City (Iowa), Madison (Wisconsin).
Rio Grande del Norte, .	1050	180,000	Santa Fé (New Mexico), Chihuahua.
Santander, .	245	10,000	Victoria (Tamaulipas), San Luis Potosi, Zacatecas.
Tabasco, . .	245	12,000	San Juan Bautista (Tabasco), Ciudad Real (Chiapas).
San Juan, . .	275	8,000	Leon (Nicaragua).
3. Basins inclined to the Pacific.			
Rio Santiago, .	350	30,000	Guadalajara, Guanajuato, Morelia (Michoacan), Queretaro.
Culiacan, . .	280	7,000	Culiacan (Sinaloa), Durango.
Rio Colorado, .	750	170,000	No towns.
Sacramento, .	350	20,000	Sacramento City (California).
Columbia, . .	800	194,000	Salem (Oregon).
Frazer, . . .	450	30,000?	New Westminster (British Columbia).
Youcon, . . .	1150	100,000	No towns.
4. Basins inclined to the Arctic Ocean.			
Mackenzie, . .	1200	441,600	No towns.
Back or Great Fish, . . .	420	"	"
Churchill, . .	1300	78,600	"
Nelson and Saskatchewan, .	1000	360,000	Fort York (Hudson Bay Territory).

Lakes.—The principal lakes of North America, in the order of the river-basins in which they occur, are the following:—

St Lawrence Basin: Lakes Ontario, Erie, Huron, Michigan, and Superior, the largest fresh-water lakes in the world, their united area amounting to 93,880 square miles. *Mississippi:* Lake Itasca, in Minnesota, forming the source of the river. *San Juan:* Nicaragua and Leon, in Central America. *Rio Santiago:* Lake Chapala, in Mexico. *Mackenzie:* Great Bear Lake, Great Slave Lake, Athabasca, Lesser Slave Lake, Wollaston.* *Churchill:* Indian Lake, Deer Lake, Wollaston. *Saskatchewan:* Winnipeg, Winnipegosis, Manitoba, Lake of the Woods, Rainy Lake. *Continental Basin:* Great Salt Lake, Utah, Sevier.

Climate.—In a continent embracing 75 degrees of latitude, and nearly twice as many of longitude, the varieties of climate are necessarily very great. Speaking generally, however, we find that its various sections have a lower average temperature than the corresponding latitudes of

* The waters of Lake Wollaston are connected both with the Churchill and the Mackenzie, streams issuing from either extremity of the lake, and flowing in opposite directions.

the Old World. The immense forests which cover so large a portion of the surface, the general want of cultivation of the soil, and, above all, the great width of the continent in high latitudes, are no doubt some of the main causes that lead to this result.

The western side of the continent is greatly warmer than its eastern. For example, Sitka I. has a mean annual temperature of 45° Fah., while Nain, in Labrador, in the same latitude, has a mean temperature of only 28°. The hottest portion of the New World, embracing the Gulf of Mexico, the Caribbean Sea, and the coasts immediately adjoining them, lies mainly within this continent. The coldest region of North America and of the New World lies north of a line which, commencing at Cape Bathurst, near the mouth of the Mackenzie, deflects south-eastwards to the head of Chesterfield Inlet, and thence northwards to Lancaster Sound and North Devon. North America is also more humid than the corresponding latitudes of the Old World. It is calculated that 115 inches of rain fall annually in tropical America, while in tropical Asia and Africa the amount does not exceed 77 inches.

Minerals.—Ever since its discovery in the beginning of the sixteenth century, North America has been celebrated for the richness and variety of its mineral productions. The mines first wrought were those of Mexico and Central America; but recently California and British Columbia have eclipsed all other countries, with the exception of Australia, in their inexhaustible supply of the precious metals.

Gold is principally found in California, British Columbia, and Mexico. *Silver*, Mexico, Central America, California, and Canada. *Copper*, Canada, especially N. and E. of Lake Superior, which is one of the richest copper regions on the globe; U. States, Mexico, Central America, and Cuba. *Lead*, U. States, Mexico, Central America, Canada. *Tin*, Mexico, Canada (near Lake Superior). *Zinc*, Central America. *Iron*, the Alleghanies, and numerous localities in the United States, Mexico, Central America, Canada. *Mercury*, Mexico, California, and the region S. of the great lakes. *Coal*, generally wherever the upper palæozoic strata abound, as in United States, Nova Scotia, British Columbia, Vancouver Island. *Sulphur*, Central America. *Salt*, United States, Mexico, Honduras. *Marble*, Canada, United States, Honduras. *Precious Stones*: diamonds in California, jasper in Honduras.

Botany.—The flora of North America, including Central America and the West Indies, embraces wholly or in part no fewer than six of the twenty-five "Botanical Regions" into which the land surface of the globe is divided. (See p. 17.)

When the northern continent was discovered, one vast continuous forest covered the whole surface from the St Lawrence and the great lakes to the Gulf of Mexico, and from the Rocky Mountains to the Atlantic, embracing an area of upwards of a million of square miles. Much of this ocean of vegetation has since been cleared away, though, to this day, hundreds of miles of unbroken forest exist in numerous localities; while boundless prairies, destitute of trees, but covered with tall grasses, occupy vast tracts in the north of the continent on the eastern side of the Rocky Mountains. The forest trees are extremely numerous in species, embracing many varieties of oak and pine, with the ash, beech, birch, cedar, chestnut, cypress, juniper, hickory, locust, maple, mulberry, poplar, and walnut. As the traveller passes northwards into the British territories, the variety of species is smaller, embracing mainly pines, larches, aspens, poplars, alders, hazels, and willows; while towards the shores of the Arctic Ocean the trees become fewer in number and more stunted in size, till at length the dwarf-willow, six inches in height, is the sole representative of the gigantic forests of the tropical and temperate regions. Among the more characteristic plants of North America are its *asaleas*, *magnolias*, *fuchsias*, *dahlias*, and *rhododendrons*; while the entire cactus tribe is peculiar to tropical America. Europe is indebted to the western continent for several of its cultivated plants, more especially maize, the cacao bean or chocolate tree, manioc or cassava, the potato, and the tobacco plant; while, on the other hand, America is indebted to European colonisation for wheat, barley, and the other kinds of corn, as also for rice, the bread-fruit tree, the sugar-cane, the coffee-shrub, and the cotton-plant. America does not contain a single indigenous species of the heath tribe, nor has a peonia ever been

found in it, except a solitary one observed by Douglas on the Pacific side of the Rocky Mountains. This mighty chain, indeed, forms an impenetrable barrier between two floras nearly as different in character as if they had been separated by an ocean.

Zoology.—The types of animal life indigenous to the western continent are in general inferior in size and strength to those of the eastern. The lion of the Old World is represented by the puma, and the tiger by the jaguar; though the gigantic condor of South America is more powerful and formidable than any bird found in the eastern hemisphere.

North America forms one of the six zoological kingdoms into which the land surface of the globe is divided. It embraces three provinces, the first of which comprises North-West, British, and Danish America; the second the United States; and the third Mexico and Central America. The zoology of the first or Arctic province closely resembles that of the corresponding province in Europe and Asia. Here the species are comparatively very few in number, and consist generally of the lowest orders of the respective classes; but this is in a large measure compensated for by the extraordinary number of individuals belonging to the different species, and occasionally, as in the case of the whales, by the gigantic dimensions of the forms. The most conspicuous MAMMALS of this province are the white and polar bear, the moose and reindeer, the musk-ox, beaver, white fox, racoon, marten, squirrel, sea-otter, mink, musk-rat, ermine, wolverine, lemming, hare, various seals, and numerous species of whale. Among BIRDS may be enumerated some sea-eagles, a few waders, with an immense number of other aquatic species. REPTILES are almost wholly wanting, being represented by a solitary tortoise. The fauna of the Temperate province comprises no fewer than 122 species of mammals, 178 birds, and 93 reptiles; while the Tropical province embraces 178 mammals, 624 birds, and 82 reptiles. (See under "United States," "Mexico," and "Central America.")

Ethnography.—See corresponding article under "South America."

BRITISH NORTH AMERICA.

Boundaries.—N., the Arctic Ocean; N.W., Alaska Territory; W., the Pacific; S., the United States; E., the Atlantic, Davis Strait, and Baffin Bay. Lat. 42° 21'—82° N.; lon. 53° 5'—141° W.

Area and Population.—The area is roughly estimated at 3,524,094 square miles, or nearly the size of the continent of Europe; and the population at 4,264,400, or a third more than the population of Scotland, or upwards of one person to every square mile.

Only a small portion of this immense territory is actually colonised, and by far the larger part of it has a soil too sterile and a climate too severe to admit of the successful pursuit of agriculture. Generally speaking, it consists of an elevated plateau in the W., traversed by a lofty mountain-chain, which increases in elevation from N. to S., and rises in many places above the limit of perpetual congelation. East of this is an immense plain of slight elevation, which gently inclines from all sides towards the Hudson Sea. This plain is traversed in the direction of its greatest length by a chain of lakes unparalleled for their number and magnitude. The principal of them belong to the basin of the St Lawrence, still further east, while most of the others are drained by the Mackenzie and Saskatchewan. Between the Hudson Sea and the Atlantic lies the barren and inhospitable region of Labrador; while, in the higher latitudes, the surface is a monotonous stony waste, with a low and scanty vegetation, abandoned to the Esquimaux, the reindeer, and musk-ox. Here the winter cold is terrific, and the subsoil permanently frozen.

Political Divisions.—British North America comprises the following main divisions—viz., 1. The Dominion of Canada in the S.E. (Ontario, Quebec, New Brunswick, Nova Scotia), together with the two islands

Prince Edward and Newfoundland, hitherto not incorporated with it: 2. British Columbia, in the S.W., now also politically incorporated into the Dominion of Canada, though in other respects widely differing: 3. Manitoba or Rupert's Land, between the Rocky Mountains and the Hudson Sea (including the Red River Settlement), being the larger portion of the immense region formerly known as the Hudson Bay Company's Territory: and 4. The peninsula of Labrador, between the Hudson Sea and the Atlantic.

DOMINION OF CANADA.

(WITH NEWFOUNDLAND AND PRINCE EDWARD ISLAND.)

Boundaries.—N., Labrador and Rupert's Land; W., the 90th meridian; S., the Great Lakes, the United States, and the Atlantic; E., the Atlantic.

Extending from Detroit, in Michigan, lat. 42° 21', to Cape Bauld, in Newfoundland, lat. 51° 39' N., and from Cape Race, lon. 53° 5', to 90° W., this region embraces 9° 18' of lat. and 37° of lon. Ottawa, the cap. of the Dominion of Canada, near the central parallel, is in the same lat. as Oregon City, St John (New Brunswick), Lyon, Venice, Simferopol, and the centres of the Sea of Aral and Lake Balkash.

Area and Population.—The united area of the Dominion and of the two adjoining islands amounts to 419,409 sq. m., or $3\frac{1}{4}$ times the area of the British Isles. In 1868, the estimated population was 4,099,800, being only a third more than the population of Scotland. In 1851, the population of the six provinces was only 2,478,145; hence we may legitimately infer that the country doubles its population in twenty years, while the United States requires about twenty-five years to double its population.

Political Divisions.—The Dominion of Canada, constituted in 1867, embraces four provinces—viz., Ontario or Upper Canada, and Quebec or Lower Canada—both in the basin of the St Lawrence, and separated from each other by the Ottawa; and New Brunswick and Nova Scotia, south of the estuary of that river. The two former may be called the inland provinces, and the two latter the maritime provinces. Newfoundland is separated from New Brunswick by the Gulf of St Lawrence, which embraces Prince Edward Island. The following are the principal towns in the six provinces:—

ONTARIO.—Ottawa 15 (Ottawa), Toronto 45, Kingston 14, Hamilton 19 (L. Ontario), Niagara 10 (Niagara), London 12 (Thames).

QUEBEC.—Quebec 51, Three Rivers 6, Montreal 90 (St Lawrence), Sherbrooke 6 (St Francis).

NEW BRUNSWICK.—Fredericton 6, St John 35 (St John), St Andrews 7 (Passamaquoddy Bay).

NOVA SCOTIA.—Halifax 26 (S.W. coast), Yarmouth (Bay of Fundy), Windsor (Minas Bay), Pictou 5 (Northumberland Strait), Sydney 1 (I. Cape Breton).

PRINCE EDWARD ISLAND.—Charlottetown 4 (Hillsborough), Georgetown (E. coast), Princetown (N. coast).

NEWFOUNDLAND.—St John's 27 (S.E. coast).

Descriptive Notes.—*Ottawa*, situated on the edge of a dreary wilderness, but now connected with the great highways of commerce by canal and railway, possesses several important advantages as the capital of the Dominion. It enjoys unrivalled water-power, which has already been turned largely to account in the lumber trade: the supply of magnetic-iron ore in the vicinity is of unlimited extent, though coal is wanting to turn it to proper account. *Toronto*, the cap. of Ontario or Upper Canada, is, in regard to population, the third city in Canada, and the grand emporium for its wheat, which it exports to Britain and the United States. *Kingston*, a considerable city at the N.E. extremity of Lake Ontario, is the entrepôt of the trade between Upper and Lower Canada, and a naval arsenal of Great Britain. *Hamilton*, a thriving town on the Grand Trunk Railway, and at the W. extremity of Lake Ontario, has an active and increasing trade. *Niagara*, a flourishing town at the mouth of the river of same name which unites Lakes Erie and Ontario, has a brisk traffic by steam with New York, Toronto, and Kingston: about 15 m. further up are the celebrated Falls of Niagara, the most magnificent in the world. The Horse-Shoe Fall, on the Canadian side, is 1800 ft. across and 158 ft. in perpendicular depth, while the American Falls are 600 ft. broad, and 163 in depth: it is estimated that the falls discharge 100 million tons of water per hour. *London*, a beautiful town on the Thames, in the centre of the Canadian peninsula, is fast rising into importance. *Quebec*, the ancient cap. and present stronghold of Canada, is the great entrepôt for the trade of the Dominion with Great Britain, the West Indies, &c. Ship-building is very extensively carried on. Quebec was founded by the French in 1608, and ceded to Great Britain in 1763: near the city are the Heights of Abraham, on which, in 1759, was fought the action rendered memorable by the fall of Wolfe and Montcalm, the British and French commanders. Six miles N.E. of Quebec are the celebrated falls of Montmorency, 250 ft. high and 60 ft. wide. *Montreal*, the largest, handsomest, and most commercial city in Canada, is situated on an island of the same name in the St Lawrence, 15 m. below its confluence with the Ottawa. Its architecture is on a scale of magnificence which is rivalled by few of the finest cities in Europe. It is the centre of an extensive railway system, and the natural outlet for the products of the vast grain countries which border the great lakes. The Victoria tubular bridge, carrying the Grand Trunk Railway over the St Lawrence, is the largest in the world, being 9194 ft. in length, or nearly two m. It was opened in August 1860. *Fredericton*, formerly St Ann's, though much inferior to St John, is the seat of the provincial assembly. *St John*, the commercial capital and the largest city in New Brunswick, has a fine harbour, which is open at all seasons, and defended by several forts. It is the entrepôt of a wide extent of country, possesses valuable fisheries, and exports timber, fish, furs, and lime, in large quantities. *Halifax*, the cap. of Nova Scotia, and the most important city in the Maritime Provinces, is built of wood, and beautifully situated on a narrow arm of the sea leading up to Bedford Basin, one of the finest harbours in the world. It is the principal station of the British army and navy in North America, and is well defended by strong forts and batteries. Halifax is the nearest port to Great Britain on the American continent, being only 1800 m. from Galway, a voyage of six days; and a railway, projected from it to Quebec through the centre of New Brunswick, will bring that city within eight days' journey of Liverpool, with which there is regular steam communication. *Windsor*, a small town, charmingly situated on Minas Bay, contains an Episcopal college. *Pictou*, the principal town on the G. of St Lawrence, has an excellent harbour and considerable trade. *Charlottetown*, the cap. of Prince Edward Island, has a magnificent harbour, and enjoys great commercial facilities. *St John's*, cap. of Newfoundland, stands on a spacious and secure harbour defended by several forts; it is much resorted to during the fishing season, when numerous vessels are employed in the capture of seals.

Capes, Islands, Gulfs, and Straits.—See under "North America."

Surface and Mountains.—The Dominion of Canada is almost wholly confined to the basin of the St Lawrence, which is estimated to embrace an area of 297,600 sq. m., of which 91,300 m. are covered by the five principal lakes. Generally speaking, the surface of the Dominion is very varied, and in some parts extremely rugged. On the northern

bank of the St Lawrence the land rises gently towards the interior for about 20 m., beyond which is a plateau of very moderate elevation. The mountains have no great elevation, the highest being the *Green Mountains*, 4000 ft., which form a prolongation of the Appalachian chain of the United States, and traverse Lower Canada south of the St Lawrence from S.W. to N.E., terminating at Gaspé Point; the *Wolchish Mountains*, in Lower Canada, 1500 ft. high, and covered with perennial snow, from the water-parting between the basin of the St Lawrence and the Hudson Sea: a range of hills in the N. of New Brunswick, extending from the Falls of the St John to the Bay of Chaleur, attains the height of 2170 ft., and forms the highest elevation in the maritime provinces.

The interior of Nova Scotia forms a table-land 700 ft. high, and the Cobequid Hills in the N. are 1200 ft. high. Cape Breton rises in the N. to an elevation of 1800 ft. Prince Edward Island is generally flat. Newfoundland is for the most part rocky and uneven; the "Long Range" in the W. stretches from S. to N., attaining an elevation of 1500 ft.

Rivers and Lakes.—The only river of importance in this part of British America is the St Lawrence, which has its remotest sources in the Western tributaries of Lake Superior, and whose entire length is estimated at 2150 m. The area of its basin, as above stated, is 297,600 sq. m., a large portion of which is occupied by magnificent fresh-water lakes, the largest in the world (p. 226). The river receives different names in the different parts of its course—as, the St Louis, above Lake Superior; the St Mary, between Lake Superior and Lake Huron; the St Clair, between Lakes Huron and St Clair; the Detroit, between Lakes St Clair and Erie; the Niagara, between Lakes Erie and Ontario; the Iroquois, between Lake Erie and Montreal; and the St Lawrence, between that city and Gaspé Point. For the principal affluents of the St Lawrence, see table of river basins (p. 243). Owing to the numerous deep indentations of the sea, there are few rivers of any magnitude in the maritime provinces. The longest is the St John, in New Brunswick, which, after a course of 400 m., falls into the Bay of Fundy. The most important streams in Nova Scotia are the Shubanacadie, falling into Minas Basin, and the Annapolis, into the Bay of Fundy. For the principal lake, see p. 226.

Climate.—The climate of Canada is what geographers call *excessive*, both the heat of summer and the cold of winter being much greater than in corresponding latitudes in Europe.

Though the mean annual temperature is 44° in the S., and 32° in the N., the extremes of heat and cold range from 95° above to 36° below zero; but the dryness of the air and the absence of high winds greatly mitigate the cold of winter, rendering the climate salubrious, and highly conducive to longevity. Fatal epidemics, and even contagious diseases, are almost unknown; and persons subject to coughs and colds suffer far less than in Great Britain. The sky is remarkable for its purity and transparency, and fogs are rarely seen. In Lower Canada winter begins about the end of November, and lasts till the end of April; but in the upper province it is considerably shorter, and it sometimes passes without almost any snow. In the vicinity of the great lakes winter is much milder than in the interior; but the St Lawrence is usually frozen over, for five months in the year, as far down as Quebec. The average depth of snow is 30 in., and the mean fall of rain 22 in. In the interior of New Brunswick the climate is thought to be gradually improving, owing to the clearing away of the forests; but at Fredericton, the cap., the range of temperature is still from 95° to -20°. Fogs are frequent on the S. coast of Nova Scotia. Here also the spring season is cold and tedious; in summer, the rain often falls in torrents, but the

autumn is delightful. The annual fall of rain in Nova Scotia is 52 in., yet the province is very healthy. The climate of Prince Edward Island is considerably milder than that of the surrounding colonies. Newfoundland is noted for its humid atmosphere, its dense fogs, and the cold of its winters, when the thermometer frequently falls to 30° below the freezing-point.

Products.—With the exception of coal and a few of the less important metals, Ontario and Quebec have been found to possess all the known useful minerals.

The principal minerals are—iron, lead, copper, nickel, zinc, gold, silver, manganese, limestone, marble, lithographic stones, paving-stones, mill-stones, various precious stones, asphalt, and valuable wells of petroleum or rock-oil. Copper, however, constitutes the most important of the mineral treasures of Canada Proper. The Huronian strata, occupying the whole northern flank of Lake Huron and parts of Lake Superior, are traversed by numerous cupriferous veins, the export value of which, in 1866, amounted to £68,600. The mineral products of the maritime provinces are abundant and valuable, comprising inexhaustible supplies of ironstone and coal, together with plumbago, copper, manganese, limestone, gypsum, copperas, alum, salt, writing and roofing slates, sandstone, and other building-stones. A ledge of gold-bearing quartz was discovered in June 1860 near the head-waters of Tangier River, in Nova Scotia, and several gold mines have since been opened in various parts of the province. In 1859 a vein of silver ore was found in Newfoundland, together with rich lodes of lead and of copper pyrites, the latter being as valuable for its sulphur as for its copper. The greater part of the Dominion is covered by enormous forests, chiefly of white and red pine, the former of which, frequently measuring 100 ft. from the ground to the first branch, is exported to the United Kingdom in great quantities. Other forest trees are the ash, birch, beech, elm, maple, lime, elder, willow, cedar, and many others. The timber trade, the original occupation of the people, is still the most valuable branch of its commerce, though fast yielding to that of agriculture. Wild fruits are numerous, and nearly all the vegetables and fruits of Great Britain arrive at perfection in Ontario, under proper cultivation. The flowers are of great beauty and variety, but generally of different species from those indigenous in W. Europe. In the fertility of its soil, and its adaptation to the growth of cereals, Canada yields to no country either in the Old or New World. Ontario, especially, is famous for its wheat. In the valleys of some of the larger rivers, thirty crops of wheat have been raised in immediate succession, the first of which averaged forty bushels per acre, and the last twelve bushels, without the application of manure. In many places the soil has been greatly injured by such constant succession of the same kind of crops; but of late more improved methods of agriculture have largely restored the ground to its original fertility. Indian-corn, hops, and tobacco are the common crops, and yield large returns. Hemp and flax are indigenous plants, and can be cultivated to any extent in many parts of the country. In the vicinity of the great lakes the grape and peach grow luxuriantly, and ripen to perfection in the open air. The "lumber trade" (as the exportation of timber is called) forms the principal source of wealth in New Brunswick, where only a very small portion of the soil is cleared. Nova Scotia is, for the most part, covered with wood and lake; the trees are less majestic than in New Brunswick, but embrace a greater number of species. The soil is very fertile: the principal crops are wheat, maize, barley, rye, oats, potatoes, buck-wheat, and field peas. The wheat crop often suffers from weevil, and the province does not, even in good seasons, supply its own population with bread. The orchards of the W. counties are very productive; apples and cider are largely exported, and considerable quantities of sugar are obtained from the maple-tree. Prince Edward Island was till recently covered with primeval forests; but now a large portion of the soil is cultivated. The soil of Newfoundland is marshy, and covered with a scrubby vegetation. The island is very destitute of timber: kitchen vegetables form the principal crops, but some of the cereals are found to thrive well in favoured localities. The wild animals comprise the bear, wolf, fox, lynx, tiger-cat, beaver, martin, otter, minx, musk-rat, porcupine, weasel, moose-deer, squirrel, and hare. The cariboo-deer roam in vast herds in the pastures of Newfoundland, and the celebrated Newfoundland dog is peculiar to the island. Birds consist of wild swans, wild turkeys, ducks, Canada geese, woodcocks, snipes,

and many beautiful birds of the smaller feathered tribes, besides eagles, kites, hawks, horned owls, herons, bitterns, and crows. There are two remarkable features in the ornithology of this country—viz., 1. The birds are all destitute of song: 2. The periodic migrations of birds in amazing numbers, on their way to and from the Arctic regions. Domestic animals comprise cattle and sheep, which in Nova Scotia are very numerous; horses are reared in vast numbers in Prince Edward Island; and swine and poultry in all the provinces. The seas, bays, and rivers literally swarm with fish of almost every name; and the celebrated "bank of Newfoundland," which forms the most extensive submarine elevation on the globe, is tenanted by immense shoals of capelin and lance, which attract the larger species—the cod and whale.

Ethnography.—The population consists for the most part of emigrants from the United Kingdom and their descendants, the principal exception being the province Quebec, where four-fifths of the inhabitants are of French extraction, that colony having belonged to France previous to its cession to Great Britain in 1763. They speak the French language slightly corrupted, and are nearly all Roman Catholics.

In 1861, there were in the Dominion 926,466 inhabitants of French origin, of whom 847,615 were in Quebec, and 33,287 in Ontario. There were 32,850 negroes, and about 25,000 native Indians. Almost all the other inhabitants are of British extraction, with the exception of 66,500 "loyalists" from the United States (that is, persons who fought on the side of Great Britain during the American war), and 23,600 Germans. In the same year there were in the Dominion 1,605,930 Protestants; 1,372,913 Roman Catholics; 76,176 of diverse creeds. The English language prevails everywhere except in Quebec, where the French predominates; and Irish, Gaelic, and German may be heard in various localities. Few countries have provided more liberally for education than Canada. In Ontario no fewer than 22 per cent of the population were at school in 1862, and 11 per cent in Quebec. There were 14 colleges, 131 grammar-schools, and 6300 common schools, attended by 460,000 pupils. The maritime and insular provinces have also put forth great efforts to educate the people. It is said that in Prince Edward Island one-fifth of the whole revenue is expended on education, and that there are more schools than there are roads to them. The press is advancing rapidly; the journals are unstamped, and there is no duty on paper or advertisements. Generally speaking, every town and village has its own press, and not unfrequently two papers are issued from each.

Government.—The Dominion of Canada is vested in a Governor-General (appointed by the Crown), who is aided by a Privy-Council and a parliament consisting of a Senate and a House of Commons. The former consists of 72 members, being 24 for each of the original provinces, and 12 for each of the maritime provinces. The House of Commons consists of 181 members (who are chosen every five years), there being 82 for Ontario, 65 for Quebec, 15 for New Brunswick, and 19 for Nova Scotia, being one member for every 17,000 of the population. The laws of England form the recognised code in all the provinces except Quebec, where the old French laws, subject to the alterations of Parliament, are still respected. Prince Edward Island and Newfoundland are ruled by a Lieutenant-Governor appointed by the Crown, assisted by an Executive Council and a House of Assembly, the members of which are elected by the people.

The Imperial Government rarely interferes in the legislation of these colonies, except when some great national interest is involved. The ties that bind them to the home country are slackening every year, and it is not very improbable that ere long they may become wholly independent. Not being represented in the British Parliament, they pay no taxes; and though England protects them from foreign invasion, she refuses to maintain a standing army in the country except at the expense of the colonies. Already the number of British troops serving in the colonies has been reduced to 5000 men. The Dominion maintains a volunteer force of 44,000 men, and a newly-organised militia, in which

all the male inhabitants between the ages of 18 and 60 are liable to serve. In 1869, there were on the lakes of Canada and on the St Lawrence 8 war steamers carrying 18 cannons, belonging partly to Great Britain and partly to the Dominion. The Imperial Government possesses besides 2 steamers capable of being transformed into war vessels. In 1870, the Revenue of the Dominion amounted to £4,574,000; the Expenditure to £4,404,000; and the Public Debt to £15,162,280. In the same year the Revenue of the two insular provinces was £166,974; the Expenditure, £201,994; and the Public Debt, £326,499.

Manufactures and Commerce.—In the Dominion of Canada the timber trade continues to form the chief industry of the people. The value of the wood exported in 1867 was £2,789,729, of which £1,377,956 worth were sent to Great Britain, and a much greater quantity was retained for home consumption.

The valley of the Ottawa supplies the finest varieties of wood, and New Brunswick the greatest quantity. Next in importance to the timber trade is that of agriculture, which has of late prodigiously increased. In 1869, the wheat crop alone amounted to 25,000,000 bushels, worth £4,500,000. The fisheries are also of immense value. Newfoundland alone, in 1867, exported 815,088 quintals of cod-fish, 4928 tuns of seal-oil, 3800 tuns of cod-oil, and 399,041 sealskins; while Ontario and Quebec exported £950,000 worth of fish and oil. The exports of the Dominion, for 1870, amounted to £14,714,000, and the imports to £14,962,000. The exports of the Dominion to the United Kingdom, in 1870, amounted to £4,990,920, and the imports from the United Kingdom to £7,719,000. The trade of the Dominion is chiefly with the United States and Great Britain, the principal exports being to the former country, while the chief imports are derived from the latter. In the same year, the exports to the United States amounted to about £6,596,000, and the imports from the United States to £4,945,000. Woollen and cotton manufactures are the principal articles derived from the mother country, though the duties levied on them are almost prohibitive, amounting to 15 per cent. Wood and horses form the principal exports from Prince Edward Island; fish, oil, and sealskins from Newfoundland. The Dominion possesses a considerable merchant navy. In 1867 there were 6217 vessels, carrying 912,715 tons.

Internal Communication.—The Canals, though only 218 miles in aggregate length, are of great capacity, and are very superb works.

That along the St Lawrence, from the tide to Lake Ontario, is about 41 m. in length. The Rideau Canal, from Lake Ontario to Ottawa City, a distance of 135 m., carries vessels of 120 tons burden. The Welland Canal, from the S.W. of Lake Ontario to Port Maitland on Lake Erie, a distance of 42 m., allows vessels of 125 tons to pass from the one lake to the other, thus avoiding the insuperable Falls of Niagara. The Railways are on a grand scale, and some of their viaduct bridges are among the most stupendous in the world. Such are the Victoria Tubular Bridge across the St Lawrence, near Montreal, 9194 ft. long, which cost about two million pounds sterling; and the Great Suspension-Bridge over the Niagara River, below the Falls. In 1836 there were not 20 m. of railway, whereas in 1871 there were 2679 m., besides 10,000 m. of electric telegraph. The principal lines in the Dominion are the Grand Trunk, which, commencing at Port Sarnia on Lake St Clair, proceeds eastwards by Toronto and Kingston to Montreal, where it crosses the St Lawrence and proceeds E. to Richmond, and thence in a southerly direction to Portland, in Maine. The next important railway is the Great Western, which runs from Toronto through Hamilton and London to Windsor, opposite Detroit, whence a line extends to Chicago. From Toronto, the Ontario and Huron Railway proceeds N.W. to Collingwood on Georgian Bay, a distance of 96 m. Another line, 160 m. in length, crosses the Grand Trunk at Stratford, and the Great Western at Paris, and connects Goderich, on Lake Huron, with Buffalo in the State of New York. The local Government of Quebec has gifted 3,000,000 acres to companies for the purpose of constructing railways on the northern shores of the St Lawrence, from Quebec to Montreal and Ottawa. In addition to the above, Halifax is connected with Windsor and Truro, while the proposed intercolonial line is to connect Halifax with Fraserville, 110 m. below Quebec, thus forming a continuation of the Grand Trunk Railway.

BRITISH COLUMBIA.

Under the term British Columbia is now embraced the whole of British North America west of the Rocky Mountains. It includes not only the colony formerly known as British Columbia, lying between the Rocky Mts. and the Pacific, and between the Simpson River and the United States, but also the district known as Stickeen, extending from the Simpson River northwards, and along the eastern side of the United States territory of Alaska; Vancouver Island, formerly a separate colony, but united to British Columbia in 1866; and Queen Charlotte Island, north-east of Vancouver. All these sections now form one colony, which in 1871 resolved to unite itself with the Dominion of Canada. It extends from lat. 49° to about 62° N., and from lon. 117° (Mt. Brown) to 133° W.

Its entire length from N. to S. is about 900 m., with a breadth of mainland varying from 600 to 200 m., embracing an area of 213,000 sq. m., or about four times that of the British Isles, while the pop. in 1871 was only 50,600 persons, who are chiefly migratory, consisting of mining adventurers from California and other places. The mainland is watered by three noble rivers—the Simpson, the Stickeen or Frances River, and the Frazer River (with its affluent, the Thomson). The colony is to a great extent occupied by two grand mountain-ranges, running N.N.W., but gradually diverging from each other towards the N., where they enclose a vast plain, of from 1000 to 3000 ft. in elevation. The eastern boundary is formed by the main crest of the Rocky Mountains, some of the peaks of which in this region are among the loftiest mountains of the N. American continent, as Mt. Brown, 16,000 ft.; Mt. Hooker and Mt. Murchison, about 15,700 ft. each. The Cascade Mts., or Sea Alps, run along the coast from near the mouth of the Frazer into the U.S. territory of Alaska. The interior is extremely mountainous, with vast forests, numerous lakes, and swampy tracts. During the last few years agricultural operations have been greatly extended, and it is now ascertained that the soil and climate are well adapted to the growth of cereals, especially wheat, barley, and oats, which grow luxuriantly. The country is well stocked with excellent timber, has extensive deposits of bituminous coal well fitted for the production of steam; while a magnificent gold-field, one of the richest in the world, was discovered in 1860 at the confluence of the Frazer with the Thomson. The climate is very moist in summer and extremely cold in winter, especially in the elevated interior, where snow blocks up the mountain-passes from October to July. The range of temperature is much greater than in corresponding latitudes of western Europe, the mean summer being 86° Fah. and the mean winter 15°. As yet there are no towns on the mainland, except New Westminster, the capital, situated near the mouth of the Frazer, with a pop. of only 800. Notwithstanding many serious drawbacks, there can be no doubt that there is a great future in store for British Columbia. It has many natural advantages, as compared with other sections of British North America. Its mineral treasures are unrivalled for richness; it is admirably adapted for agricultural and pastoral operations; while its supply of valuable timber is inexhaustible. The main drawbacks are, its vast distance from England, and the extreme difficulty of available communication with Canada and the mother country. The possibility of opening railway communication between the colony and Canada, through British territory, has been for many years a subject of earnest discussion: and we learn that the Dominion has agreed to the construction of a Pacific railway.

Vancouver Island lies S.W. of the mainland of British Columbia, from which it is separated by Queen Charlotte Sound (in some places only 10 m. wide) and the Gulf of Georgia. The Strait of Juan de Fuca, 18 m. wide, separates it from the United States territory of Washington. Length, 275 m.; greatest breadth, 50 m.; area, 16,000 sq. m.; population, 25,000, of whom 18,000 are Indians. This fine island, by far the largest on the W. coast of America, came into the possession of Great Britain by the Oregon treaty of 1846, which determined the boundary between the United States and British North America. The surface is highly diversified, and a chain of lofty mountains occupies the interior throughout its entire length. The soil consists in some places of rich prairie land, which is well

adapted for the growth of wheat and other cereals, but only a small portion of the surface is suitable for agriculture. The coast abounds with fine natural harbours, which will afford protection to ships in all weathers. Coal of an excellent description is found at Naniamo, while copper and iron ore (the latter found nowhere else on the N. Pacific coast) are abundant. Fish of the most valuable species are very numerous around the coasts. Land animals, important for their skins, embrace the beaver, racoon, and land-otter; while game comprises the elk, deer, grouse, snipe, &c. Temperature seldom above 80°, or lower than 15°. The interior of the country is little known, but is described as rocky and richly wooded. The importance of Vancouver is greatly enhanced since the discovery of gold in the adjoining mainland of British Columbia; and there can be no doubt that its position, climate, excellent harbours, and valuable minerals, destine it ere long to occupy a prominent place among British colonies. Victoria the cap. near the S. extremity of the island, has a population of 5000.

MANITOBA, OR RUPERT'S LAND.

Between the Rocky Mts. and Hudson Sea, and between the Arctic Ocean and the United States, is the central and principal subdivision of the late Hudson Bay Company's Territory. See 'Manual,' p. 529.

Fort York, in the centre of the entire territory, and the Company's principal trading station, situated at the mouth of the river Nelson and on the W. shore of Hudson Bay, has the same latitude as Aberdeen, Aalborg, Riga, Tobolsk, New Archangel, and Nain in Labrador. The precise area is unknown, but it may be estimated at 2,245,000 square miles, or eighteen times the area of the British Isles. The surface is generally low and level, partly sloping towards the Arctic Ocean and partly towards the Hudson Sea. The whole territory lying between the limits above stated embraces three great natural regions. The region lying N. of Lake Athabasca and E. of the Mackenzie may be called the *Barren Region*, as little or no vegetation is seen except lichens, mosses, and a few stunted plants. The region lying around the S. and W. shores of Hudson Bay may in like manner be styled the *Woody Region*, as the soil is usually covered with magnificent forest trees. The entire remainder, stretching westward to the Rocky Mountains, and northward to the Arctic Ocean, may be denominated the *Prairie Region*, as it consists for the most part of immense plains devoid of timber, but clothed with luxuriant pasture grasses and sedges. The only important forests in this region are along the E. base of the Rocky Mountains. On the whole it is well adapted for becoming an agricultural country, as all the European cereals, together with potatoes, turnips, and other useful vegetables, can be here brought to maturity. Rupert's Land was subdivided by the Company into twenty districts, each containing one or more factories, or fur-trading establishments. The principal of these are, *Ft. Good Hope* on Mackenzie River, and *Ft. Macpherson* on Peel River, the two most northern of the Company's factories. The pine and the alder are abundant in their neighbourhood, amongst the valleys of the Rocky Mountains. Barley ripens at *Ft. Norman* (lat. 65°), and good crops of oats have been raised at *Ft. Simpson*. *Ft. Franklin*, on the western shore of Great Bear Lake, has a mean annual temperature of 14° below freezing-point, a minimum heat of 58° below zero, and a maximum heat of 80° Fah. At *Ft. Chippewyan*, on Lake Athabaska, there is not the slightest cultivated vegetation. Coarse grass is yielded by the swamps, and cut for the few cattle required at the station, which have to feed on fish when this source fails. In 1862, gold was discovered at *Edmonton House*, on the Saskatchewan, the whole valley of which is likely to prove auriferous. The cold at *Ft. York* during the winter months is fearfully intense, the thermometer descending sometimes as low as 50° below zero. In rooms with a constant fire brandy freezes into a solid substance. In summer the surface thaws to the depth of 10 or 12 inches, and becomes a clammy mud; and but for supplies imported from more temperate regions, existence would be impossible. *Red River Settlement*, S. of Lake Winnipeg, is the only colony to be found in the immense region of Rupert's Land. The population, 6523 in number, is composed chiefly of emigrants from the Highlands of Scotland, together with retired servants of the Hudson Bay Company and a few native Indians.

LABRADOR, an immense peninsula between Hudson Sea and the Atlantic, forms the eastern portion of the British territory; but the authority of the Hudson Bay Company did not extend farther east than to lon. 70°.

Greatest length, from E. to W., 1000 miles; greatest breadth, 850 miles; area estimated at 420,000 square miles, or five times the area of Great Britain; population about 5000, or only one person to every 84 square miles. Nain, a mission station near the middle of the east coast, is in the same latitude as New Archangel, Fort York, Aberdeen, Riga, and Tobolsk. Labrador is subdivided into Rupert River or East Main in the W., and Labrador Proper in the E. The former of these contains the principal trading stations of the Company. The only sites of importance in Labrador Proper are four settlements of the Moravian missionaries—viz., Nain, Okhak, Hebron, and Hopedale, all on the N.E. coast. The shores are desolate and sterile in the extreme, but the interior is wooded and well watered. The climate is very severe, but less foggy than in Newfoundland. Corn will not ripen, and only hardy kitchen vegetables can be raised. The inhabitants, who are nearly all Esquimaux, are generally occupied in fishing. The most valuable fisheries are those of the seal and whale, which give employment to about 20,000 British subjects.

GREENLAND, OR DANISH AMERICA.

Boundaries.—N. and N.E., the Arctic Ocean; W., Kennedy Channel, Baffin Bay, and Davis Strait; S. and S.E., the Atlantic. Lat. 59° 49'—81° 30' N.; lon. 20°—75° W.

Greenland is now universally regarded as an island, or group of islands united together by everlasting bonds of ice, and deeply penetrated on its western side by narrow inlets which resemble the *fjords* of Norway. The highest latitude in West Greenland hitherto reached by foreigners is lat. 81° 42'—a point to which the Swedish naturalist, M. Nordenskiöld, succeeded in attaining in a Government screw-steamer, in the autumn of 1868. Captain Copeland, the astronomer of the Second German Arctic Expedition, states that, in 1870, he and his party reached the 77th parallel on the eastern side. Cape Farewell, the southern extremity of Greenland, is on the same parallel as Mt. St. Elias in Alaska, Unst in Shetland, St. Petersburg, and Yakutsk.

Area, Population, and Surface.—The area of Greenland is roughly estimated at 380,000 sq. m., or thrice the size of the British Isles; and the population, in 1868, at 9352, of whom only about 340 are Danes, the remainder being Esquimaux. On the W. side the surface is generally high, rocky, and barren. The elevated portions are covered with perennial snow; the glaciers extend in many places to the sea-shore; while the interior is supposed to be one vast field of ice. The E. coast appears to be about the most inhospitable region in the world. Here the mean temp. for January 1870 was found by Copeland to be 11°.9 below zero, but towards the end of February it fell to 40°.5. The mean for the whole year is remarkably low, being only + 11°.3 Fah. The German explorers found a long narrow fiord on the E. coast (lat. 75°), which they penetrated for 90 miles. From the summit of a peak, 7200 feet high, and which they named Mt. Payer, a view was obtained of a mountain-chain, lying about one-third the breadth of Greenland, from the E. coast, the loftiest peaks of which they estimated at about 13,000 feet in elevation. The W. coast is fringed with islands, some of them, as Disco Island, being of considerable size. The Danish government has divided the country into two Inspectorates—a southern and a northern—which are separated by the Long Fiord, lat. 67° N. The principal villages are Julianshaab, New Herrnhut, Christianshaab, and Uppernavik, all on the west coast; and Godhavn, on Disco Island. *Julianshaab* is the cap. or chief Danish Station in Greenland; *Herrnhut*

is the principal mission-station; while *Uppernavik* is the most northern civilised place on the globe.

Climate and Products.—The mean annual temperature of western Greenland is probably about $27^{\circ}.5$ Fah.; but the difference between the highest and lowest temperatures (124°) is perhaps without a parallel. In July the thermometer sometimes stands as high as 84° , while in January it often sinks as low as 40° below zero. July is the only month of the year in which no snow falls; but the seas do not usually begin to freeze till January. The vegetation mainly consists of grasses and lichens in the north, and of a few scattered birches, alders, and willows in the south, where are also raised small quantities of corn, potatoes, and kitchen vegetables. Coal is found on the western coast, from lat. 69° to 72° ; copper has been discovered on Disco Island; and kryolethe, a new mineral containing sodium, has recently been found. The principal animals are—the white or polar bear, the rein-deer, musk ox, fox, and eider-duck, together with seals, walruses, and whales, large numbers of which are caught annually by fleets of vessels from Scotland, England, and the United States. The seal is hunted for its valuable skin, which fetches a high price in the English market; the walrus, for its blubber and the ivory of its tusks; and the Greenland whale for its valuable oil and whale-bone of commerce.

Ethnography.—The natives, who are named *Esquimaux*, are a peculiar race, allied to the Mongolian family, and greatly differing from the North American Indians.

They live chiefly on seals and whale-blubber, and are clothed in skins. In summer their houses are tents formed of bone and the skin of the dog-fish, while in winter they live in holes dug in the ground and covered a-top with turf. It is now ascertained that this portion of the New World was discovered by a Norwegian, as far back as A.D. 982. It was soon after colonised from Iceland, but the intercourse between the colony and the mother country gradually diminished, and ultimately ceased, till at length the existence of Greenland became unknown to European nations. In 1587 it was rediscovered by Davis, and in the following century the Danes re-established a communication with the lost colony. The natives have been converted to Christianity by Moravian missionaries.

THE UNITED STATES.

Boundaries.—N., British America, from which it is separated by the great lakes and the 49th parallel of latitude; W., the Pacific Ocean; S., Mexico, the Gulf of Mexico, and Strait of Florida; E., the Atlantic Ocean and New Brunswick. Lat. 25° — 49° N.; lon. 67° — 125° W.

While the lat. of its northern boundary corresponds with that of Cherbourg, its southern limit is on the same parallel with the centre of the Sahara; and the parallel of 37° , which passes through the centre, cuts San Francisco and Norfolk in the New World, and Cape St Vincent, Syracuse, Smyrna, Astrabad, Kundooz, and Yedo, in the Old. The extreme length, from Passamaquoddy Bay to the Pacific, is estimated at 2800 miles, and the extreme breadth, from Red River Settlement to the mouth of the Rio Grande, 1600 miles. The frontier line measures about 10,000 miles; but, including the sinuosities of the shores, the entire sea-line is about 12,600 miles, or one mile of seaboard to every 262 square miles.

Area and Population.—The area, without including the vast but sterile territory of Alaska, acquired from Russia in 1867, amounts to 2,819,811 square miles, or about twenty-three times the area of the British Isles, and more than two-thirds the area of the whole of Europe.

The population in 1870 amounted to 38,312,663, being only thirteen persons to each square mile.

The population of the States has more than doubled itself during the last twenty-five years, and increased fourfold in the last half-century. The average rate of increase for every ten years since 1790 has been 84½ per cent—a rate perhaps without a parallel among civilised nations. The main cause leading to this result is the constant stream of emigration from Europe, and especially from the British Isles. During the last ten years alone 2½ million emigrants settled in the country. The number of white persons in the Union at the last census was 33,003,314, and of negroes 4,441,766, all of whom are now in the enjoyment of freedom.

Political Divisions.—At present there are 37 States, 10 organised Territories, 1 unorganised (Indian) territory, and 1 Federal district (Columbia), in all, 48 political divisions, which have an average area of 58,750 square miles, or three-fourths the size of Great Britain, and an average population of 797,000, or twice that of an ordinary English county.

These 48 divisions are now again under one central government, but were lately broken up into two hostile sections, known as the Federal or Free States, and the Confederate or Slave States. In 1861, no fewer than 13 States (*viz.*, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Virginia, Kentucky, Tennessee, Arkansas, and Missouri) seceded from the Union, forming themselves into a Confederate Republic, with Richmond as their capital, and Jefferson Davis as their president. After a lengthened contest of the most sanguinary character, the fleets and armies of the North have at length triumphed—Richmond has been evacuated; most of the Confederate generals have surrendered, and President Davis has been captured. The seceding States embraced the entire S.E. angle of the former Union, extending from the river Ohio to the Gulf of Mexico, and from the Atlantic to the frontiers of Mexico. The twenty-one Free States, all of which, with the exception of California, Oregon, and Kansas, are situated in the N.E., extend from the Atlantic to the Missouri, and from the great lakes to the Ohio. They are divided by the Ohio and Missouri into three groups—an eastern, a northern, and a western; while the Slave States were divided by the lower course of the Mississippi into two groups—a south-eastern and a south-western.

NORTH-EASTERN STATES.*

MAINE.—Augusta 8 (Kennebec), Bangor 15 (Penobscot), Portland 26 (Casco Bay).

NEW HAMPSHIRE.—Concord 9, Manchester 20 (Merrimac), Portsmouth 10, Dover 8 (Piscataqua).

VERMONT.—Montpelier 2 (Wincooski), Burlington 7 (L. Champlain).

MASSACHUSETTS.—Boston 178, Charlestown 40, Cambridge 26, Salem 22 (Massachusetts Bay), Lowell 37 (Merrimac), Plymouth 6 (C. Cod Bay), New Bedford 22 (Buzzard Bay), Worcester 25 (Seehouk).

RHODE ISLAND.—Providence 50, Newport 10 (Narragansett Bay).

CONNECTICUT.—Hartford 29 (Connecticut), Newhaven 39 (Long Island Sound).

NEW YORK.—Albany 62, Brooklyn 266, New York 806, Troy 40 (Hudson), Utica 23 (Mohawk), Oswego 12 (L. Ontario), Rochester 48 (Genesee), Buffalo 81 (L. Erie), Syracuse 21 (Erie Canal).

NEW JERSEY.—Trenton 20, Camden 14 (Delaware), Newark 72, Paterson 20 (Passiac), Jersey City 29 (Hudson).

PENNSYLVANIA.—Harrisburg 13 (Susquehanna), Philadelphia 563 (Delaware), Reading 23 (Schuylkill), Pittsburg 50, Alleghany 29 (Ohio).

DISTRICT OF COLUMBIA.—WASHINGTON 61 (Potomac).

NORTH-WESTERN STATES.

OHIO.—Columbus 18 (Scioto, *aff.* Ohio), Cincinnati 250 (Ohio), Dayton 20 (Miami), Cleveland 43, Sandusky 10 (L. Erie), Toledo 15 (Maumee).

* Of the Eastern States, the first six are known as New England States.

INDIANA.—Indianapolis 19 n. (Wabash), New Albany 10 (Ohio).
MICHIGAN.—Lansing (Grand River), Detroit 46 (Detroit).
WISCONSIN.—Madison 5 n. (Rock R.), Milwaukee 45 (L. Michigan).
ILLINOIS.—Springfield 5 n. (Illinois), Alton 7, Galena 8 n. (Mississippi), Chicago 110 n. (L. Michigan).
IOWA.—Iowa 5 (Iowa, *aff.* Mississippi), Du Buque 13 (Mississippi).
MINNESOTA.—St Paul 10 (Mississippi), Stillwater (St Croix).

WESTERN STATES.

KANSAS.—Lecompton (Kansas), Fort Leavenworth (Missouri).
OREGON.—Salem, Portland, Oregon City (Willamette, *aff.* Columbia).
CALIFORNIA.—Sacramento City 25, San Francisco 83 (Sacramento).

SOUTH-EASTERN STATES.

DELAWARE.—Dover 4 n., Wilmington 22 n. (Delaware Bay).
MARYLAND.—Annapolis 5 (Severn), Baltimore 212 (Chesapeake Bay).
VIRGINIA.—Richmond 38 (James River), Petersburg 18 (Appomattox), Norfolk 15, Portsmouth 10 (Elizabeth River).
W. VIRGINIA.—Charlestown (Gt. Kanawha), Whealing 14 (Ohio).
NORTH CAROLINA.—Raleigh 5 n. (Neuse River), Wilmington 11 (Cape Fear).
SOUTH CAROLINA.—Columbia 8 (Congaree), Charleston 40 (coast).
GEORGIA.—Milledgeville 4 n. (Altamaha), Savannah 22 (Savannah).
FLORIDA.—Tallahassee 2 n. (Ocklokonee), Key West (Pine Islands).
ALABAMA.—Montgomery 36, Mobile 29 (Alabama).
MISSISSIPPI.—Jackson 3 (Pearl River), Natchez 7 (Mississippi).
TENNESSEE.—Nashville 17 (Cumberland), Memphis 23 (Mississippi).
KENTUCKY.—Frankfort 4 (Kentucky), Louisville 68 (Ohio).

SOUTH-WESTERN STATES.

MISSOURI.—Jefferson 3 (Missouri), St Louis 161 (Mississippi).
ARKANSAS.—Little Rock 5, Van Buren 3 (Arkansas).
LOUISIANA.—Baton Rouge 4, New Orleans 169 (Mississippi).
TEXAS.—Austin 4 (Colorado), Galveston 7 (Gulf of Mexico).

TERRITORIES.

NEBRASKA.*—Lincoln n., Omaha 15, Nebraska 5 (Missouri).
NEVADA.*—Carson City 3, Virginia 7 (Carson).
WASHINGTON.—Olympia 3 (Puget Sound), Pacific City (Columbia).
IDAHO.—Boisé City (Snake, *aff.* Columbia).
MONTANA.—Helena n. (Missouri).
DAKOTAH.—Yankton (Missouri).
WYOMING.—Cheyenne (Platte).
UTAH.—Great Salt-Lake City 17 (Jordan).
COLORADO.—Denver City (Platte).
NEW MEXICO.—Santa Fe 7 (Santa Fe *aff.* Rio Grande del Norte).
ARIZONA.—Tucson (Santa Cruz, *sub-aff.* Colorado).
INDIAN TERRITORY.—Tahlequah n. (Arkansas).
ALASKA.—New Archangel 2 (Sitka Island).

Descriptive Notes.—**NORTH-EASTERN STATES.**—*Augusta*, capital of Maine, a small town, with a United States arsenal. *Bangor*, one of the most extensive lumber depôts in the Union. *Boston*, the great literary and commercial metropolis of New England, derives its name from the fact that its founders came from Boston, in Lincolnshire. *Bunker's Hill*, in the suburb of *Charlestown*, is the scene of a cele-

* The first two are now formed into States.

brated battle fought in June 1775, between the American troops and the royalist forces. Benjamin Franklin was born here in 1706. In *Cambridge*, one of the suburbs, stands Harvard University, the oldest and best endowed seminary in the Union. *Salem*, a place of great trade, contains a valuable museum. *Lowell*, called the Manchester of America, from the number and variety of its manufactures, the chief of which is cotton. *Plymouth*, a small seaport town, and the oldest in New England, being the place at which the "Pilgrim Fathers" arrived in the "Mayflower," November 1620. *New Bedford*, more extensively engaged in the whale-fishery than any other town in the United States. *Providence*, capital of Rhode Island, and in size the second city in New England, is distinguished for its literary and educational establishments. *Newport*, one of the most celebrated watering-places in New England. *Hartford* is actively engaged in commerce and manufactures, and contains an Episcopal College. *New Haven*, one of the handsomest cities in the Union, is the seat of Yale College. *Albany*, a large, thriving city, is most advantageously situated both for foreign commerce and inland trade: its university is the principal educational establishment of the United States. *Brooklyn*, at the western extremity of Long Island, opposite New York, of which it may be regarded as a suburb, contains the United States navy-yard, 40 acres in extent, and a large quantity of military stores. *New York*, the largest and most populous city of the United States, and the chief commercial emporium of the New World, is situated on Manhattan island, at the confluence of the Hudson and East River. The city is triangular in form, and nine miles in circumference, and traversed by regular and handsome streets, the largest of which is Broadway, nearly four miles long, lined with shops and hotels, one of the latter containing 390 apartments. It was founded by the Dutch in 1621, was the seat of the first American Congress, in 1785, and of the inauguration of Washington, the first President of the United States, in 1789. *Buffalo*, at the north-east extremity of Lake Erie, where it contracts into the Niagara River, is the great entrepôt between the North-West and the Atlantic seaboard, and one of the most thriving cities in the Union. *Syracuse*, on the Erie Canal, is noted for its valuable salt-springs, and for being the seat of the most extensive salt-manufacture in the United States. *Newark*, the largest and most populous city in New Jersey, has numerous public institutions. *Philadelphia*, at the confluence of the Delaware and Schuylkill, formerly the capital of the United States, is still the second city in the Union in regard to population and importance: it was founded by William Penn in 1682, and in the Old State House the independence of the Union was declared in 1776. *Pittsburg*, at the junction of two streams which form the Ohio, and in the midst of valuable coal-mines, is the chief seat of the iron manufacture: shipbuilding is extensively carried on, and here is manufactured most of the machinery of the steamboats that ply on the Mississippi. *Washington*, capital of the district of Columbia, and the metropolis of the United States, contains the White House or residence of the President, and the Capitol or seat of the United States Congress; but has neither trade nor manufactures.

NORTH-WESTERN AND WESTERN STATES.—*Columbus*, capital of Ohio, is a place of great trade. *Cincinnati*, the most populous city of the N.W. States, admirably situated in regard to commercial facilities, carries on an immense traffic by means of its river, canal, and railway communications. *Cleveland*, the great northern commercial emporium of Ohio. *Detroit*, the commercial emporium of Michigan, is largely engaged in commerce and shipbuilding; has large iron and brass foundries, and is the landing-place of hosts of emigrants from Europe. *Milwaukee*, the commercial mart of a rich and improving country, is noted for the superior quality of the bricks manufactured there. *Galena*, an important mining town, derives its name from the *lead ore* obtained in the neighbourhood in large quantities: the copper-mines are also very rich and valuable. *Chicago*, the great shipping depôt of an immense fertile region, is rapidly growing into a large and populous city. *Iowa*, on the left bank of the Iowa, which is navigable to this place. *Du Buque*, the central depôt of the great mineral region of Iowa, ships immense quantities of lead. *St Paul*, capital of the State of Minnesota, at the head of the navigation of the Mississippi, and 14 miles below the celebrated Falls of St Anthony, is rapidly rising into importance. *Lecompton*, capital of a new State, admitted into the Union in 1859, is, as yet, little more than a village. *Salem*, capital of Oregon, the last State admitted into the Union, is a small town on a left-hand affluent of the Columbia. *Sacramento* is fast rising into importance, owing to its vicinity to the gold regions. *San Francisco*, the commercial metro-

polls of California, inside of the narrow strait called the Golden Gate, is by far the most important city on the Pacific coast of N. America. The quantity of gold shipped from this port in 1853 was nearly fifty million dollars.

SOUTH-EASTERN STATES.—*Wilmington*, the most important town in the State of Delaware, contains a United States arsenal, and numerous manufacturing establishments. Here took place an engagement in 1777, between the United States army under Washington, and the British army under Lord Howe. *Baltimore*, by far the most populous and important city in the South-Eastern States, is ornamented with numerous monuments, one of which is an elegant obelisk commemorative of the defence of the city against the British forces in 1814: Baltimore is the greatest tobacco and flour market in the Union. *Richmond*, capital of Virginia and of the Southern Confederation, and the natural depôt of a large extent of country, exports great quantities of flour, cotton, and tobacco. *Petersburg*, a busy manufacturing town, which largely exports tobacco and flour. *Norfolk*, the chief commercial port of Virginia. *Portsmouth*, noted for its fine harbour, and for its being an important naval depôt of the United States. *Fredericksburg*, on the Rappahannock, will be long remembered as the scene of a disastrous defeat of the Union forces by the Confederates under General Lee, Dec. 13, 1862. *Raleigh* contains an elegant State-house built after the model of the Parthenon at Athens. *Columbia* is a very handsome little town, with the streets beautifully ornamented with trees, and is the seat of South Carolina College. *Charleston*, the only important city in S. Carolina, will be long famous for its heroic defence against the U.S. fleet in 1863. *Savannah*, the largest and most commercial town in Georgia, has an excellent harbour defended by two forts, and exports great quantities of cotton and tobacco. *Key West*, on an island, commands the entrance to the Gulf of Mexico. *Montgomery*, capital of the state of Alabama, exports large quantities of cotton. *Mobils* (pron. *Mo-beel*), by far the most important town in the State, and, next to New Orleans, the principal port in the Union for its export trade in cotton. *Natches* carries on a considerable foreign trade, and is the chief port in the State for the exportation of cotton. *Nashville*, a handsome town on the left bank of the Cumberland, here crossed by a magnificent wire suspension-bridge: its railway and other facilities render it the seat of an active trade. *Memphis*, on the Mississippi, the most important town between New Orleans and St. Louis. *Louisville*, a rapidly increasing and well-built city on the Ohio, immediately above the rapids, has numerous manufactures, and carries on an immense trade.

SOUTH-WESTERN STATES.—*St. Louis*, a large and rapidly growing city on the right bank of the Mississippi, 1130 miles above New Orleans, is the centre of the overland trade with Mexico, is an important military station, and possesses a great transit-trade by the Mississippi, Missouri, Illinois, and Ohio. *New Orleans*, a large and flourishing city on the left bank of the Mississippi, 105 miles above its mouth, and by far the most important in the immense river-basin in which it is situated, possesses unrivalled advantages for inland trade, and, next to New York, is the principal commercial entrepôt of the Union. Previous to the late insurrection, it was the great port for the shipment of cotton, the exports of which in 1852 amounted to nearly one and a half million bales: tobacco, sugar, flour, corn, lard, and lead, were also exported in enormous quantities. *Austin*, capital of Texas, has only 4000 inhabitants. Texas was formerly a member of the Mexican Confederation; was independent from 1836 to 1845, and annexed to the United States in 1846. *Galveston*, the most populous town in the State, is the principal seaport and seat of commerce.

THE TERRITORIES.—As the towns in the territories are for the most part mere villages, we deem it unnecessary to present any description of them here.

Gulfs, Bays, and Straits.—Penobscot Bay, in S. of Maine; Massachusetts Bay, E. of Massachusetts; Delaware Bay, between New Jersey and Delaware; Chesapeake Bay, between Maryland and Virginia; Albemarle Sound, E. of N. Carolina; Bahama Channel, or Strait of Florida, between Florida and Cuba; Appalachee Bay, N.W. of Florida; Humboldt Bay, W. of California; Strait of Juan de Fuca, N. of Washington Territory.

Capes, Islands, and Mountains.—See under "North America."

Table of Rivers and Towns.—The annexed Table exhibits in detail

the river-system of the United States, Canada, and Northern Mexico, together with the natural position of all the principal cities and towns contained in their basins.

1. Basins inclined to the Atlantic Ocean.

Rivers.	Towns.
St Lawrence,	Quebec, Three Rivers, Montreal, Kingston, Toronto, Oswego, Hamilton, Niagara, Buffalo, Cleveland, Sandusky, Detroit, Milwaukee.
Ottawa, l	Montreal, OTTAWA.
Thames, l	London.
Grand River, ..	LANSING.
Penobscot,	Bangor.
Kennebec,	AUGUSTA.
Casco Bay,	Portland.
Piscataqua,	Portsmouth, Dover.
Merrimac,	Lowell, Manchester, CONCORD.
Massachusetts Bay,	Salem, Charlestown, Cambridge, BOSTON.
Cape Cod Bay, ..	Plymouth.
Buzzard Bay,	New Bedford.
Narragansett Bay,	Newport, PROVIDENCE.
Connecticut,	HARTFORD, Hanover.

Rivers.	Towns.
Seehouk, l	Worcester.
Long Island Id.,	Newhaven.
Hudson,	Brooklyn, New York, ALBANY, Troy.
Mohawk,	Utica.
Delaware Bay, ...	DOVER, n.
Delaware R. ...	Wilmington, n., Philadelphia, Camden, TRENTON.
Schuylkill, ..	Reading.
Chesapeake Bay,	ANNA POLIS, Baltimore.
Susquehanna, ..	HARRISBURG.
Potomac,	WASHINGTON.
Rappahannock,	Fredericksburg.
James River, ..	RICHMOND.
Appomattox,	Petersburg.
Elizabeth R., ..	Norfolk, Portsmouth.
Neuse,	RALEIGH, n.
Cape Fear R., ...	Wilmington.
Congaree,	COLUMBIA.
Co. S. Carolina, ..	Charleston.
Savannah,	Savannah.
Altamaha,	MILLEDGEVILLE.
Co. of Florida, ...	St Augustine, Pensacola.

2. Basins inclined to Gulf of Mexico.

Ocklokonee,	TALLAHASSEE, n.
Alabama,	Mobile, MONTGOMERY.
Pearl,	JACKSON.
Mississippi,	New Orleans, BATON ROUGE, Natchez, Memphis, St Louis, Alton, Galena, n., Du Buque, St PAUL.
Red River,	Fort Washita.
Arkansas,	LITTLE ROCK, Van Buren.
Ohio, l	New Albany, Louisville, Cincinnati, Wheeling, Pittsburgh.
Cumberland, l	NASHVILLE.
Wabash,	INDIANAPOLIS, n.
Kentucky, l, ..	FRANKFORT.
Miami,	Dayton, n.
Scioto,	COLUMBUS.

Missouri,	Alton, JEFFERSON, OMAHA CITY, YANKTON.
Kansas,	LECOMPTON.
Platte,	FORT LARAMIE, DENVER.
Yellowstone, ..	FORT UNION.
Illinois, l	SPRINGFIELD, n.
Iowa,	IOWA CITY.
Rock R., l	MADISON, n.
Co. of Texas, ...	Galveston.
Colorado,	AUSTIN.
Rio Grande del Norte,	Matamoros, SANTA FE, n.
San Juan,	MONTREY, SALTILLO.
Sabinas,	Santa Rosa.
Conchos,	CHIHUAHUA, n.
Santa Fe, l	SANTA FE.
Santander,	NEW SANTANDER, Zacatecas, n.
Panuco,	Tampico, Valles, SAN LUIS POTOSI, n.

3. Basins inclined to Pacific Ocean.

Nasca,	PUEBLA, TLASCALA.
Santiago,	GUADALAJARA, Tepic, n.
Lerma,	GUANAJUATO, n., MORELIA, n.,

Leon, n., Salamanca,	QUERETARO, n.,
Toluca.	
Culiacan,	CULIACAN, DURANGO,

Basins inclined to Pacific Ocean (continued).

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Sinaloa,	Sinaloa.	Columbia,	Pacific City.
Sonora,	URRS, Sonora, Arispa.	Williamette, i.	Portland, Oregon
Rio Colorado, ..	Fl. Yuma, Ft. TUCSON, N.		City, SALEM.
W. Co. Mexico, ..	TEHUANTEPEC, ACA-	Strait of Juan de	
	PULCO, Tepic, Ma-	Fuca,	VICTORIA (cap. Van-
	zatlan, LA PAZ.		couver I.)
Sacramento,	San Francisco, SAC-	Puget Sound, ..	OLYMPIA.
	RAMENTO CITY.	Frazer,	NEW WESTMINSTER.

Lakes.—The Lakes of the United States are neither numerous nor important, if we except those magnificent fresh-water seas in the basin of the St Lawrence, which separate it from Canada, and which we have noticed under that country.

The other principal lakes are *L. Champlain*, between New York and Vermont, drained by the Richelieu, but connected by a canal with the Hudson; *Itasca*, in Minnesota, forming the source of the Mississippi; and *Pontchartrain*, in Louisiana, in the delta of that river. Of those belonging to the great continental basin, or that have no visible outlet, we need only enumerate the *Great Salt Lake*, in the territory of Utah, and *L. Tulare* in California.

Climate.—The climate of the United States is necessarily very diversified, owing to the vast extent and great variety of the surface. In general, however, it is *excessive*, being characterised by greater heat in summer and greater cold in winter than any other country of corresponding latitude.

New York, for example, has the summer of Rome and the winter of Copenhagen; though it is one degree further S. than the former, and 15° than the latter. The mean annual temperature, however, is greatly less than in corresponding latitudes in the Old World. In the North-Eastern states, where the latitude corresponds with that of Northern Italy, the winter is so severe for three or four months of the year, that the snow is sufficient for the employment of sledges, and the ice of the rivers strong enough to be crossed by horses and waggons. On the Pacific side, however, the climate is much less rigorous; while, in the states bordering on the Gulf of Mexico, it is almost tropical—the July temperature of New Orleans being 81°, or the same as that of Cairo and Algiers. The average fall of rain over the Union is 37½ inches, but the number of rainy days is smaller than in Europe. (See under “Canada,” p. 234).

Minerals.—The crystalline rocks in many parts of the Union are peculiarly rich in metallic ores. In the Atlantic slope they contain numerous veins of the ores of lead, copper, zinc, iron, and other metals. They also form the matrix of the gold of California and the south Atlantic states, and of the great masses of copper ore on the borders of Lake Superior.

The gold-field of California is one of the richest in the world, and yields only to those of Australia. The gold was accidentally discovered in 1848 on the banks of the Sacramento. The value sent to the United States in 1852 was 46,000,000 dollars, besides a large quantity removed privately out of the country. The same region yields also iron, lead, copper, silver, mercury, coal, diamonds, and marble. Mercury is also found in Kentucky, Ohio, and on the borders of the Great Lakes. Rich lead mines are worked in Illinois, Wisconsin, and Missouri, and yield nearly 14,000 tons annually. Salt abounds in the plateau-region of Utah, as well as in many other parts of the United States, and the salt-springs of New York produce upwards of 5,600,000 dollars value per annum. The Palæozoic rocks, so enormously developed between the Appalachian chain and the river Missouri, are remarkably rich in coal. The principal coal-fields are: (1.) The great Appalachian coal-field, extending from Pennsylvania to the Tuscaloosa, in Alabama, embracing an area of 70,000 square miles, and attaining a maximum thickness of 2500 feet. (2.) The coal-field of Michigan, near the centre of that state. (3.) The great

coal-field lying between the Ohio and Mississippi. (4.) The Iowa and Missouri coal-field, occupying the immense triangular space which is bounded by the Mississippi, the Missouri, and the Iowa rivers. The united area of all the coal-fields in the United States is estimated at 190,000 square miles, which exceeds twenty-fold all the coal deposits of Europe. There are also numerous and inexhaustible beds of iron-ore, especially in the Alleghanies.

Botany.—The vegetation of the United States, with the exception of the portion lying W. of the Rocky Mountains, is comprised within Schouw's *fourth* and *fifth* Botanical Regions (p. 17).

The former of these, or the *Region of Asters and Solidagos*, extends from the 35th parallel to Lake Winnipeg and St James' Bay, and consequently embraces a large section of British America. This extensive region is mainly characterised by the great number of species belonging to the genera from which it derives its name; by the great variety of its oaks and pines; and by the total absence of the heath tribe. In 1848, the number of indigenous flowering plants in this portion of the United States was 1966 species. The cultivated plants are in general the same as in Great Britain, Central Europe, and Canada, and consist chiefly of wheat, maize, flax, hemp, hops, potatoes, tobacco, the vine, and fruit-trees in great abundance. The region lying between lat. 35° and the Gulf of Mexico, and between the Atlantic Ocean and the Rocky Mountains, is termed the *Region of Magnolias*, as it is mainly characterised by plants of this order, so remarkable for their large odoriferous flowers, and for the tonic qualities of their bark. The cultivated plants of this region are chiefly the vine, olive, fig, orange, sugar-cane, cotton, tobacco, rice, wheat, maize, and other grains. The cotton plant is cultivated chiefly in South Carolina, Georgia, and the adjacent states, the total crop, for 1855, being 2,847,339 bales of 4 cwt. each. Tobacco is grown chiefly in Maryland, Virginia, Kentucky, Tennessee, and North Carolina, the total annual produce being estimated at 2,000,000 cwts. Rice is grown principally in South Carolina, and the sugar-cane in Louisiana, Florida, and Georgia. The culture of the vine has made considerable progress, especially in Ohio, Pennsylvania, and Indiana.

Zoology.—The quadrumana, edentata, and pachydermata, are unknown in the United States; the marsupialia are represented by one species of opossum; the carnivora by numerous species of bats, hedge-hogs, racoons, coatis, badgers, martens, skunks, otters, foxes, and by the puma or cougar, which may be regarded as the lion of the New World; the ruminants embrace the moose-deer or American elk, the antelope, the argali of the Rocky Mountains, and the American bison, which in vast herds roams over the wide prairies of the west; while the rodents include the beaver, musquash, and numerous other species belonging to the squirrel, mouse, porcupine, and hare tribes. The domestic animals have all been introduced from Europe.

The birds are very numerous, and have been ably and beautifully illustrated by Wilson, Audubon, and others. Reptiles abound, and belong to every order: tortoises and frogs are especially numerous; the lizards include the alligator or cayman; and the serpents, which are about 40 in number, the deadly rattlesnake. In 1842, the number of known fishes was 440 species. The fresh-water fishes, especially in the Ohio, are extremely numerous; while the rivers, lakes, and sea-coasts abound with a surprising number of molluscous animals, especially bivalves.

Ethnography.—The people of the United States belong to four great divisions of the human family—Caucasians, Negroes, American Indians, and Chinese, who are Mongolians.

The Caucasians, or Whites, who embrace about six-sevenths of the entire population, are mainly of British and Irish extraction; but Germans, Dutch, and French are also numerous. In the New England States, the inhabitants are nearly all of British origin; Dutch and Irish are numerous in the middle States; Germans in Pennsylvania, Maryland, Virginia, and in the Western States; French in Louisiana, Missouri, and Indiana; and Spaniards, in Texas, Florida, and Cali-

formia. The Negro population are of African descent, and, including about 4,000,000 freedmen, form one-seventh of the entire population. The slaves existed exclusively in the South-Eastern and South-Western States, where slavery, with all its hateful concomitants, was upheld by law. Many slaves were set free during the late civil war, while, by a recent proclamation of President Lincoln, liberty has been extended to the entire remainder. In some of the States, as in S. Carolina and Mississippi, the slaves formed the majority of the population, while in the Confederate States generally, there were two slaves to every three white men. The Indians, or aborigines, have greatly decreased in number since the discovery of America by Europeans, at the end of the fifteenth century. They are scattered over 20 States and Territories, besides the Indian Territory, which Congress has set aside for their permanent residence, and now number only 294,000.

LANGUAGE.—The English language is predominant throughout all parts of the American Union; but foreigners and all the Indian tribes continue to speak their respective native tongues.

EDUCATION is universally diffused, and a larger proportion of the people can read and write than in any other country, whether of the Old or New World. High schools and grammar schools are numerous, and there are throughout the Union no fewer than 120 colleges and universities. The oldest of these is Harvard University, Massachusetts, founded in 1636, and possessing the largest library in America.

RELIGION.—Christianity, in one or other of its forms, is the only religion known in the United States, with the exception of Mormonism in the territory of Utah; but the variety of sects is enormous. The most important sects are the Methodists, Baptists, and Presbyterians, who number about four, three, and two millions respectively. After these rank the Congregationalists, Episcopalians, Roman Catholics, and Lutherans, none of which far exceeds half a million adherents. None of the denominations is endowed by the State—the ministers and churches being supported by the voluntary contributions of the people.

Government and Finance.—The government of the United States has hitherto been a confederated republic, based on the constitution of 1787, each state being independent in the management of its internal affairs, and possessing a legislature and executive of its own (see above, p. 239).

The *general government* of the Federal States is called the Congress, which consists of a president, senate, and House of Representatives, and meets annually at Washington. The President is elected for a term of four years. He must be a native-born citizen of not less than thirty-five years of age. He is commander-in-chief of the army and navy, and, with the concurrence of the senate, declares war, makes peace, and appoints ambassadors, judges, and other officers. The present president, Ulysses Grant of Illinois, who acceded to office on the 4th of March 1869, is the eighteenth individual who has held that high office. The senate consists of two members from each State, who are chosen by the legislatures of the different States for a term of six years, one-third of the number retiring biennially. The House of Representatives consists of one member for every 93,423 inhabitants. They are chosen biennially by the free citizens of the several States, in all of which the suffrage is universal. Their duties and functions nearly correspond to those of the members of the British House of Commons. Each of the territories enjoys the privilege of sending one delegate to Congress, who has a right to speak, but not to vote. The Congress of the Confederate States met at Richmond, Virginia—Jefferson Davis, of Mississippi, being president.

In 1870 the regular army consisted of only 37,363 men, including officers; but since the commencement of the civil war, probably not less than half a million combatants on either side have been drawn up in deadly array against each other. The navy, which, previous to the outbreak of hostilities, consisted of 73 armed vessels, carrying 2323 guns, has also been vastly increased. The Federal navy alone, in December 1863, comprised 558 war vessels, carrying 4443 guns, besides gunboats. The Public Revenue in 1857 amounted to £18,444,000 sterling, the Expenditure to £14,583,000, and the Public Debt to £5,242,800; but in 1870, the ordinary regular Revenue amounted to £79,000,000, the Expenditure to £59,000,000, and the Public Debt to £499,000,000. This enormous increase in the National Debt is owing to the late civil war.

Commerce, Exports, and Imports.—Owing to the deep indentations of the eastern coast, the numerous navigable rivers of the interior, the magnificent lakes that skirt the northern frontier, and the vast network of railways which is spread over the country, the commercial facilities of the United States stand, perhaps, unrivalled among the nations, while the actual extent of its trade is second only to that of Britain. The foreign trade, though shared in by all the States, is principally confined to the nine North-Eastern States, among which New York and Massachusetts stand pre-eminent.

For the year ending June 30, 1871, the *Imports* amounted in value to 541 million dollars, and the *Exports* to 591 million dollars. Nearly a third of the imports were from the British Empire, and consisted chiefly of manufactured goods from England; the other principal imports were tea, sugar, molasses, coffee, and other tropical produce. Two-thirds of the exports for the same year were to Great Britain and her Colonies. In order of importance the exports rank as follows: cotton, bullion, breadstuffs, provisions, tobacco, cotton fabrics, timber, and rice. Until 1861, cotton was by far the most important article exported from the United States, forming nearly a third of the total value. During the continuance of the civil war the exportation of cotton nearly ceased, but it is again rapidly increasing. The coasting trade is very extensive; the cod and whale fisheries are actively prosecuted, while a vast number of steamers and other craft are constantly plying the navigable rivers of the interior, and the huge lakes that indent the northern frontier. The great commercial ports are New York, Boston, Philadelphia, Baltimore, Charleston, New Orleans, and San Francisco.

Internal Communication.—In no other country in the world has railway communication been so gigantically developed as in the United States.

The vast area extending from the Missouri to the Atlantic seaboard, and from the Ohio to the great lakes, is covered with one unbroken network of railway lines. The Great Pacific Railroad, the most gigantic in the world, connecting San Francisco with New York, was finished in 1869; length from San Francisco to Omaha, 1914 miles. In 1871 there were 53,300 miles of railway in operation, and 27,500 more projected.

MEXICO.

Boundaries.—N., Texas, New Mexico, and California; W., the Pacific Ocean; S., the Pacific, Guatemala, and Balize; E., the Caribbean Sea and Gulf of Mexico. Lat. 16°—33° N.; lon. 87°—117° W.

The city Durango, capital of the state of same name, is situated almost exactly in the centre of this extensive area, and on the same parallel of latitude with San Salvador in the West Indies, Mourzouk the capital of Fezzan, Muscat, Bhopal, Dacca, Canton, and the Sandwich Islands. The form resembles a cornucopia, with its mouth directed towards the N.E. The extreme length, from the head of the Gulf of California to Central America, is 1800 miles; the extreme breadth, along the northern frontier, amounts to 1300 miles, but across the Isthmus of Tehuantepec it does not exceed 130 miles.

Area and Population.—The area is very uncertain, but it is estimated by the most recent authorities at 773,125 square miles, or seven times the area of the British Isles. In 1869 the population, including Yucatan, was estimated at 9,173,052, or 1½ times the population of Ireland.

Political Divisions.—The confederation consists, at present, of 22 states, 3 territories, and 1 federal district, making in all 26 political divisions.

TEN NORTHERN STATES.

- LOWER CALIFORNIA (Territory).—La Paz 1 (S.E. coast).
 SONORA.—Ures 7, Pitic 8, Sonora 8, Arispe 7 (Sonora).
 CHIHUAHUA.—Chihuahua 14 n. (Conchos, *affl.* Rio del Norte).
 COAHUILA.—Saltillo 20 (San Juan), Santa Rosa 10 (Sabinas).
 NEW LEON.—Monterey 14 n. (San Juan, *affl.* Rio Grande).
 TAMAULIPAS.—New Santander 6 (Santander, *affl.* Rio Grande), Matamoros 20 (Rio Grande).
 SAN LUIS POTOSI.—San Luis 34 n., Valles 4 (Panuco).
 ZACATECAS AND AGUAS CALIENTES.—Zacatecas 25 n. (Santander), Aguas Calientes 20 (Santiago).
 DURANGO.—Durango 22 n. (Culiacan), San Juan 10 n. (Nasas).
 SINALOA.—Culiacan 12 (Culiacan), Sinaloa 10 (Sinaloa), Mazatlan 15 (W. coast).

TEN CENTRAL STATES.

- XALISCO.—Guadalajara 70 n., Tepic 25 n. (Santiago).
 COLIMA (Territory).—Colima 32 (Colima).
 MICHOACAN.—Morelia 25 n. (Lerma, *affl.* Santiago), Zamora 6 (L. Chapala).
 GUANAXUATO.—Guanaxuato 63 n., Leon 20, Salamanca 15 (Lerma).
 QUERETARO.—Queretaro 30 n. (Lerma), San Juan del Rio 10 (Pate).
 MEXICO.—Tezcuco 10 (L. Tezcuco), Toluca 12 (Lerma).
 FEDERAL DISTRICT OF MEXICO.—Mexico 205 (L. Tezcuco).
 TLASCALA (Territory).—Tlascala 3 (Nasca).
 VERA CRUZ.—Vera Cruz 8, Tampico 7, Xalapa 10 n. (Gulf of Mexico).
 PUEBLA.—La Puebla 85, Cholula 10 (Nasca).

SIX SOUTHERN STATES.

- GUERRERO.—Acapulco 5 (Pacific), Tixtla 5.
 OAXACA.—Oaxaca 25 (Rio Verde).
 TEHUANTEPEC.—Tehuantepec 14 (Tehuantepec).
 CHIAPAS.—Ciudad Real 7, Chiapas 15, Comitán 10 (Tabasco), Palenque n. (Usamasinto).
 TABASCO.—San Juan Bautista 4, Tabasco (Tabasco).
 YUCATAN.—Merida 20 n., Campeachy 15 (Gulf of Mexico).

Descriptive Notes.—NORTHERN STATES.—*La Paz*, with a celebrated pearl-fishery in the vicinity, now nearly abandoned. *Arispe* and *Sonora* have rich gold and silver mines in their vicinity. It is said that the household utensils in *Arispe* are nearly all of pure gold. *Chihuahua*, surrounded by silver mines, has numerous smelting furnaces. *Saltillo*, a well-built, handsome, and important town, with extensive woollen manufactures, and a large annual fair. *Monterey*, the most important place in Northern Mexico: near it are valuable gold, silver, and lead mines. *Matamoros* exports specie, hides, wool, and horses. *San Luis Potosi*, an important town, maintaining an active home and foreign trade. *Zacatecas*, the principal mining city of the state of the same name, all the towns of which are extensively engaged in mining silver—the neighbouring mountains being the richest in the world in that precious metal. *Aguas Calientes*, so named on account of the *hot springs* in its vicinity, is admirably situated for trade. *Durango*, a considerable place carrying on a good trade in cattle and leather, and having iron mines in the vicinity. *Mazatlan*, a cheerful, well-built town, greatly superior to any other on the Pacific coast of Mexico.

CENTRAL STATES.—*Guadalajara* is, after Mexico, the largest and most interesting city of the Confederation. It was founded by the Spaniards in 1551, has well-supplied markets, and extensive manufactures of cotton shawls, and of jars made

of scented earth. *Guanaxuato*, in the centre of one of the richest mining districts in the world, stands on the plateau of Anahuac, 6869 feet above the level of the sea. *Queretaro*, noted for its magnificent aqueduct, 10 miles in length, and for the ratification of the treaty of peace in 1848 between Mexico and the United States. *Tezcuco* derives its chief interest from historical associations, and from the remains of antiquity which it contains, especially three vast pyramids, and a palace said to be that of Montezuma, the last of the native Mexican princes. **MEXICO**, capital of the Mexican confederation, is universally regarded as one of the finest and wealthiest cities in the world, though in population it does not exceed Edinburgh. It is situated in a spacious plain of about 1700 square miles in area, at an elevation of 7471 feet above the sea-level. When taken by Cortez in 1521, it occupied several islands in the Lake Tezcuco, from which it is now 2½ miles distant. The churches and other public buildings contain a vast amount of wealth in statues, vases, candelabras, balustrades, &c., composed of the precious metals, and ornamented with diamonds and precious stones. *Vera Cruz* and *Tampico*, the principal seaport towns of the confederation, on the Gulf of Mexico. *Xalapa* gives its name to the drug *jalap*, which grows here wild. *La Puebla*, noted for its numerous churches, and its manufactures of soap, glass, iron, and steel.

SOUTHERN STATES.—*Acapulco*, a seaport town on the Pacific coast, with a fine harbour, and rivalling Mazatlan in the extent of its commerce. *Oaxaca* has an active trade in sugar and cochineal. *Tehuantepec*, near the south side of the isthmus of same name, was in 1853 sold to the United States for 25,000,000 dollars. *Merida*, connected with its port, Sisal, by a good road, has a Moorish aspect, having been built at a time when that style prevailed in Spanish architecture. *Campeachy*, the principal seaport town of Yucatan, is strongly fortified, and has a good export trade in cotton.

Capes, Bays, and Gulfs.—See under "North America."

Mountains and Table-Lands.—The mountain-system of Mexico is altogether peculiar. Almost the entire country consists of an enormous plateau raised by volcanic forces to an elevation varying from 6000 to 9000 feet, and ramifying as the land grows wider into several diverging chains.

This plateau, known as the table-land of Anahuac, attains its highest elevation between the capital and Vera Cruz, or about the parallel of 19° N. In this latitude, and proceeding from E. to W., are the following lofty volcanic peaks—viz., Orizaba, 17,347 feet, now extinct; Popocatepetl, the highest elevation of North America, 17,729 feet; Nevado de Toluca, 15,250 feet; and Jorullo, which, on the night of 28th September 1759, rose from the level of the plain to a height of 4149 feet. All these, except the last, rise above the line of perennial snow, which in this latitude has an elevation of about 15,000 feet. North of Guanaxuato the elevated mass divides into three branches, the central of which bends to the N.N.W. till it enters the United States, and merges into the Rocky Mountains, about lat. 44° N.

Rivers and Lakes.—With the exception of the Rio Grande del Norte, which separates the country from the United States, and the Rio Colorado, which forms the boundary between Sonora and Old California, the rivers of Mexico are generally mere torrents, which, rushing from the elevated table-land, reach the sea after a short course. (For the towns, see table under "United States.") The lakes on the Mexican table-land are very numerous, and many of them of volcanic origin. The largest are *Chapala*, with an area of about 1300 square miles, between Xalisco and Michoacan; *Parras*, in Coahuila; *Tezcuco*, in the immediate vicinity of the capital; while several large salt-water lagoons fringe the coast of the Gulf of Mexico, the chief of which are *Tampico* and *Terminos*.

Climate and Vegetation.—Owing to the great elevation and semi-tropical position of Mexico, the climate is exceedingly various. Three regions, however, may be distinguished—the tropical, temperate, and cold.

The first embraces the low grounds on the east and west sides, to the height of 2000 feet, having a mean annual temperature varying from 68° Fah. in the N., to 78° in the S. It produces in abundance all the ordinary vegetation of the tropics, including maize, manioc, cocoa, pepper, vanilla, indigo, cotton, coffee, sugar-cane, and the banana; but the excessive heat and the great fall of rain render it almost uninhabitable. This region affords an admirable illustration of the maxim in physical geography, that wherever vegetation attains its most luxuriant development, there human life languishes. The temperate region is of small extent, embracing the slopes of the table-land to the height of about 6000 feet. Here the climate is mild and gentle, and the vegetation includes most of the cereals and fruit-trees of Europe. The cold region embraces the whole remainder of the country, including the vast table-land: the climate, though agreeable and healthy, is excessively dry, and the mean annual temperature is about 62°; while the vegetable productions include the Mexican oak, pine, agave, arbutus, dahlia, geranium, and cactus: among cultivated plants may be mentioned the potato, which is extensively reared, and which in its wild state is sometimes met with at an elevation of 10,000 feet; maize, wheat, barley, cacao (a species of nut in shape and size resembling the almond), and Spanish pepper or capsicum, which is consumed by the inhabitants in enormous quantities. Among the cultivated plants of Mexico there is none more important or characteristic than the maguey, from the sap of which is prepared the favourite drink of all classes, pulque; it thrives on the poorest soil, so that near a town or populous district a plantation of it always forms a valuable estate.

Minerals and Zoology.—Mexico has long been celebrated for its minerals, and especially for the inexhaustible supply of the precious metals which it contains.

To obtain possession of the latter was the great motive that led to the discovery and conquest of the country on the part of Spain early in the sixteenth century. More silver has been obtained from its mines than from all the rest of the world; while the produce of its gold mines has only been inferior to those of Peru, and latterly to those of California and Australia. In 1850, an extremely rich quick-silver mine was discovered near Pitic, in Sonora, which promises to give a new impetus to mining operations in Mexico. Valuable copper mines are also wrought in Chihuahua; iron ore is abundant in Durango; tin, lead, zinc, and antimony in several states; but, hitherto, coal has nowhere been found.

The wild animals are exceedingly numerous, comprising the bison or American buffalo (which in mid-winter enters the country in immense herds from the forests of the north-west), the tapir, jaguar, puma, ocelot, tiger-cat, weasel, sloth, glutton, ant-eater, porcupine, grisly bear, wild swine, and monkeys. The feathered tribes exist in countless numbers, and reptiles include the Mexican crocodile, the alligator, cayman, and rattlesnake. Perhaps the most useful animal in the Mexican fauna is the cochineal insect, which yields, next to the precious metals, the most important article of export. The domestic animals were all introduced by the Spaniards; for, notwithstanding the degree of civilisation to which the ancient Mexicans had attained, they did not possess the art of taming any of their wild animals.

Ethnography.—The population of Mexico is composed, as in other Spanish American states, of three distinct races—aboriginal Indians, Europeans who are nearly all Spaniards, and Africans or negroes, who were formerly in a state of slavery. Besides these there are various mixed races—mestizos, zambos, mulattoes, quadroons, &c.

The Indian population is by far the most numerous, being estimated in 1862 at 4,868,000: they form the great mass of the labouring population, are averse to the mechanical arts, and in many places assert a wild independence. The Europeans or whites are reckoned at about 1,000,000, and form the wealthiest and most powerful section of the community. The negroes do not exceed 6000, and are rapidly decreasing in number, notwithstanding the abolition of slavery. The *Mestizos*, formed by the commingling of European and Indian blood, number about 1,600,000, and are generally engaged in trade and mechanical pursuits.

LANGUAGES AND CIVILISATION.—Spanish is the universal language of the white population and the general medium of intercourse; but no fewer than thirty-five

distinct tongues are spoken by the various Indian tribes within the limits of Mexico. The chief of these is the Mexican or Aztec, which was the language of the semi-civilised tribes at the time of the Spanish conquest of the country. It possesses the same general characteristics as the other American tongues, and is closely allied to them in internal structure. The ancient Mexicans, Toltecs, and Yucatanese had attained to a very considerable degree of civilisation before the arrival of the Spaniards, in the early part of the sixteenth century. They possessed a regular monarchical government; they had stationary abodes, and pursued agriculture with success; maize was the staple crop, and cacao was cultivated for chocolate; mining was extensively practised, and the precious metals sold in the markets; they were well skilled in architecture, raised great edifices, constructed vast palaces, pyramids, roads, aqueducts, and bridges. The remains of sculpture found in Mexico are numerous and of great variety of form and material. Feather-painting was a favourite art, in which the gorgeous plumage of tropical birds was employed to produce exquisitely-finished pictures. They had a more accurate calendar than the Egyptians, Greeks, or Romans; while the splendid ruins of Palenque exhibit medals, musical instruments, colossal statues, and well-executed figures in low relief, adorned with characters which appear to be real hieroglyphics. By means of these they were able to record many facts connected with their national history. They usually wrote on cotton cloth, on the prepared skins of animals, and on a species of paper made of the leaves of the great aloe, similar to that manufactured by the ancient Egyptians from the papyrus. Numerous manuscripts, executed in this mode of picture-writing, were committed to the flames by the Spaniards; but a few precious relics still survive in some of the libraries of Europe.

RELIGION.—The established religion, and, indeed, the only one recognised by the government, is the Roman Catholic; and though others are tolerated by law, yet, practically, innumerable restrictions are imposed on Protestantism. Almost the entire white population are devoted "Catholics," and, with few exceptions, the votaries of pleasure, profligacy, and crime. The Aztecs and other native tribes also profess a nominal adherence to that Church, interweaving its ceremonies with the idolatrous rites of their ancestors.

Government and Finance.—From the conquest of the country, in 1521, till 1824, Mexico formed one of the four great Viceroyalties of Spanish America, and was sadly misgoverned. In the latter year, a representative, popular, and federal republic was adopted, which in many of its features resembled that of the United States.

The president was elected for four years. The legislative power was vested in a general congress, consisting of a Senate and Chamber of Deputies. The deputies were elected by the people for two years,—there being one for every 50,000 of the population. The laws were said to be excellent, but the continually-recurring insurrections and revolutions rendered the executive power little better than nominal. The state of civil war having apparently become chronic, Great Britain, Spain, and France resolved, in 1861, on an armed intervention. The two former powers abandoned the enterprise at an early period, but the French army, after experiencing many reverses, at length obtained possession of the capital, and set Duke Maximilian of Austria on the throne. After reigning three years this heroic prince was, in 1867, betrayed into the hands of Juarez, the former president, and cruelly massacred. The military force consists of 91,299 men, but in 1862 Juarez could not muster more than 5000 men to oppose the French army. The navy consists of nine small vessels, carrying, in the aggregate, 85 guns and 800 marines. The receipts, in 1870, amounted to 14,500,000 dollars; the expenditure to 13,000,000 dollars; and the public debt to 399,000,000 dollars.

Commerce and Industry.—The commerce of Mexico is inconsiderable. The principal ports on the Gulf of Mexico are Campeachy, Vera Cruz, Tampico, and Matamoros; and on the Pacific coast, Mazatlan and Acapulco.

The exports consist of metals, cochineal, hides, cattle, vanilla, jalap, and a few other medicinal herbs. In 1869, the exports were valued at 27,000,000 dollars. The imports amounted in the same year to 24,000,000 dollars, and consisted chiefly of manufactured goods, earthenware, firearms, hardware, and machinery. The prin-

cipal imports are from Great Britain and the United States, the former consisting principally of plain and printed calicoes, cotton-twist, silk, and linen goods. The manufactures are unimportant, consisting chiefly of a little cotton, silk, and woollen cloths, olive-oil, carbonate of soda, soap and candles for home consumption, paper, gold and silver utensils and ornaments, delf and glass-ware, sugar-refineries and distilleries. Agriculture is greatly neglected, and much of the land cultivated by the Spaniards is now lying fallow; but the natural fertility of the soil causes it to yield a sufficient supply for the wants of the inhabitants. The roads are deplorably bad, and impracticable for wheel-carriages. The descent from the table-land to the sea is everywhere precipitous, and presents such difficulties in the way of carrying goods as will probably always cut off the interior states from a fair participation in the commerce of the globe. Mules are the only beasts of burden, and vast numbers of them are employed by carriers and in the mines. A short line of railway connects Mexico with Tacuba, a few miles to the N.E.; and another is constructed from Vera Cruz to San Juan del Rio, which will ultimately connect the capital with the principal seaport.

CENTRAL AMERICA.

Boundaries.—N.W., Yucatan and Chiapas; W. and S., the Pacific; E., the Granadian Confederation and the Caribbean Sea. Lat. 8°—18° 30' N.; lon. 83°—93° 15' W.

La Union, on Fonseca Bay, in the centre of the area thus indicated, is on the same parallel of latitude with the island of St Lucia in the West Indies, Bathurst in W. Africa, Lake Tchad, Aden, Madras, Bankok, and the Philippine Isles; and on the same meridian as Mobile and Lake Michigan. The greatest length from N.W. to S.E. is about 900 miles; the breadth varies from 70 to 350 miles.

Area, Population, and Political Divisions.—Central America comprises six states, five of which are independent republics, and one (Balize) a British colony. The united area is estimated at 188,000 square miles, and the population (in 1868) at 2,665,000. Hence, though $1\frac{1}{2}$ times the size of the British Isles, the population is only two-thirds that of Scotland. (See under "Ethnography.")

GUATEMALA.—New Guatemala 40 n. (Montagua), Quesaltenango 14 (Samala), Istapa (W. coast), St Thomas (E. coast).

SAN SALVADOR.—San Salvador 20, Acajutla, Sonsonate 10 (W. coast), Cojutepeque 15 n. (L. Ilopango), La Union (Fonseca Bay).

HONDURAS.—Comayagua 8 n. (Ulua), Juticalpa 10 n. (Patook), Omoa 2, Truxillo 5 (G. of Honduras), Tegucigalpa 10 (Choluteca).

NICARAGUA.—Managua 10, Leon 35 n. (L. Leon), Granada 10, Nicaragua 8 (L. Nicaragua), Realejo 5, Masaya, 13 (Pacific), San Juan de Nicaragua, Blewfields (Mosquito coast).

COSTA RICA.—San José 25 n., Cartago 23 n., Alahuela 12 n. (Rio Grande), Punta Arenas (G. Nicoya), Port Culebra (Pacific).

BALIZE, or BRITISH HONDURAS.—Balize or Belize 5 (Balize).

Descriptive Notes.—*New Guatemala* is a mean-looking city, occupying a wide area, as the houses are all of one storey, owing to the frequent earthquakes. The exports are numerous, consisting chiefly of sugar, cotton, coffee, cigars, dyewoods, and other native products. *Quesaltenango* ranks next to the capital for the extent of its trade and the variety of its manufactures. The chief exports are wheat, cacao, sugar, woollen and cotton fabrics. *Istapa* and *St Thomas* are the principal seaports of the state. *San Salvador*, newly rebuilt after having been destroyed by an earthquake in 1854, is again the capital of the state. *Acajutla* and *Libertad*, on the Pacific, with *La Union* on the Bay of Fonseca, are the principal seaports of San Salvador. *Comayagua*, formerly Val-

Indoloid, capital of the state of Honduras, has a college and several convents. **Omoa** and **Truxillo** are the principal seaports of Honduras: the former is very unhealthy, and is the hottest place in the New World. **Tegucigalpa** has gold, silver, and copper mines in its vicinity. **Managua**, the present capital of Nicaragua. **Leon**, the former capital, is now greatly decayed: its public edifices, which include a magnificent Gothic cathedral, are regarded as the finest in Central America: the manufactures consist chiefly of articles of dressed leather and cutlery. **Nicaragua**, situated on the isthmus which separates Lake Nicaragua from the Pacific, is likely, ere long, to become a place of some importance. (See under "Lakes.") **Realajo**, the principal seaport of Nicaragua, on the Pacific coast, commands some trade. **San Juan de Nicaragua**, or **Greytown**, in the tract of country known as the Mosquito Territory, exports hides, indigo, and tobacco: the harbour is one of the finest in Central America. The Mosquito Territory, which consists of the eastern coasts of Nicaragua and Honduras, is governed by an Indian chief, who is under the protection of Great Britain. Immense quantities of fine timber are found at various places along the coast, together with sarsaparilla and tortoise-shell of the finest quality. **San José**, capital of the state Costa Rica, about midway between its opposite coasts, lies in a deep valley which is well watered by canals and fountains. **Cartago**, the former capital of the republic, was a place of some importance prior to 1841, when it was nearly destroyed by an earthquake: near it is a mountain of same name, 11,480 feet high, from the summit of which both oceans may be seen. **Punta Arenas** and **Culebra** are the two principal seaports of the state. **Balize** is the depôt of British manufactured goods and foreign merchandise intended for Central America: mahogany and logwood are largely exported.

Islands, Gulfs, and Bays.—Turneffe and the Bay Islands, in the Gulf of Honduras. The Bay Islands, the principal of which are Ruatan, Bonacca, and Utila, were proclaimed a British colony in 1852, and attached to the government of Jamaica. Gulf of Honduras, between Honduras and Balize; Mosquito Gulf, E. of Costa Rica; Bay of Fonseca, between San Salvador and Nicaragua; Gulfs of Nicoya and Dulce, W. of Costa Rica.

Surface and Mountains.—The surface consists for the most part of an immense table-land, which extends from the Isthmus of Tehuantepec to that of Panamá. At its western extremity it attains an elevation of from 5000 to 6000 feet, but rapidly descends as it proceeds south-eastwards to the Isthmus of Panamá, where the highest point of the Pacific Railway connecting the Caribbean Sea with the Pacific is only 250 feet above the level of the sea.

The table-land is surmounted on the Pacific side by a chain of mountains, many of which are of volcanic origin; the volcano of Agua, in Guatemala, 13,000 feet high, being the highest summit of Central America. Guanacaure, Viejo, and Masaya, in the state of Nicaragua, and Cartago, in Costa Rica, attain an elevation of about 12,000 feet. The slope inclining to the Pacific is abrupt and precipitous, but that which fronts the Caribbean Sea is gentle and gradual, terminating in the plain of Mosquito, which is described as a perfect level. The plain of Nicaragua is only 140 feet above the level of the Pacific; while in the state of Honduras, between the Ulua and Goascoran, there occurs a complete gap in the cordillera, through which it is proposed to construct a railway from sea to sea.

Rivers.—Owing to the narrowness of the isthmus, the rivers of Central America are all inconsiderable in magnitude. Of those watering the longer slope and flowing towards the Caribbean Sea, the following are the principal: the Honda and Balize, in British Honduras; the Rio Dulce and Montagua, in Guatemala; the Ulua, Seco, and Poyais, in Honduras; the Segovia, between Honduras and Nicaragua; the Toacas and Escondido, in Nicaragua; and the San Juan, between Nicaragua and Costa Rica.

Lakes.—The principal lakes are those of Nicaragua and Leon or Managua, both of which are situated in the state of Nicaragua.

The first-mentioned is 140 miles long, 40 miles broad, and has an elevation of 140 feet above the level of the Pacific, or of 134 feet above that of the Caribbean Sea—there being a difference of upwards of six feet between the level of both seas at low water. The tides on the Pacific side rise to about 27 feet, while on the opposite coast they rarely exceed 12 inches. The surface of Lake Leon is only 28 feet above that of Lake Nicaragua, while between its western shore and the ocean is a neck of land, which, at its narrowest part, is only eleven miles across. For these and other reasons it has long been proposed to establish in the line of these lakes a ship-canal, uniting the two oceans, and thus obviating the tedious and dangerous navigation round Cape Horn.

Climate and Natural Productions.—The climate of the coasts and lower grounds is hot, moist, and insalubrious, especially along the Caribbean Sea; but dry, temperate, and healthy on the elevated table-lands.

The rainy season commences about the end of May and continues till the middle of October, when the rain falls in torrents, generally accompanied by violent thunder and lightning. The dry season lasts during the rest of the year, and is rarely interrupted by a single shower. Earthquakes are frequent in the interior, and numerous volcanoes, active and extinct, crown the table-lands. The soil is in general highly fertile, and the indigenous vegetation extremely luxuriant. Below the elevation of 3000 feet, indigo, cotton, sugar, cocoa, rice, and tropical fruits, form the principal objects of culture; while maize, wheat, and the cochineal plant thrive at a higher elevation. Among other natural products may be mentioned tobacco, coffee, balsam, caoutchouc, potatoes, yams, beans, plantain, manioc, logwood and other dye-woods, mahogany, cedar, and sarsaparilla. The mineral productions of the country are highly valuable, and include gold, silver, copper, iron, lead, zinc, and precious stones. Rich iron mines and vast beds of brown coal exist in the valley of the Lempa. Gold, silver, and copper mining is extensively carried on in Honduras, where are also found coal, iron, zinc, cinnabar, antimony, and platinum. The wild animals are extremely numerous and varied, embracing the puma, wolf, jaguar, wild-boar, black tiger, ocelot, tiger-cat, racoon, opossum, tapir, peccary, fallow-deer, hare, sloth, squirrel, armadillo, and monkey.

Ethnography.—The population of Central America greatly resembles that of Mexico. The larger portion of the inhabitants are aboriginal Indians; probably fewer than one-fourth of the whole are of European origin; while the remainder, who are named *mestizos*, are a mixed race, having sprung from the union of the white with the native Indian population.

The Spanish language prevails over all Central America—being now spoken by the great mass of the Indian population, except in Guatemala, where the aborigines have evinced a greater tenacity for the dialects and customs of their forefathers. The Roman Catholic religion prevails everywhere; but the nunneries are open to the public, and the inmates can leave them when they please. Central America was discovered by Columbus in 1502. In 1527 it was made a Spanish Captain-generalcy, and remained attached to the Crown of Spain till 1821, when Guatemala first declared its independence. The other states speedily followed its example, and, after a severe struggle, succeeded in casting off the yoke of the mother-country. Subsequently they formed themselves into a confederation under the title of the "United States of Central America," which was dissolved in 1839; and they now exist in the form of five sovereign and independent republics. Each state has its own president, vice-president, senate, and assembly of deputies, who are chosen by electoral colleges. Guatemala, which has fully a million of inhabitants, is by far the most populous and flourishing state, and has enjoyed a greater share of tranquillity than any of its neighbours. The other states diminish regularly in population from west to east. Owing to the extreme heat on both coasts, by far the greater number of the towns are situated on the table-lands in the interior. The principal exports consist of silver and other metallic ores, dye-woods, hides, indigo, cochineal, balsam, sarsaparilla, tobacco, cigars, cocoa, rice, coffee, and sugar.

Belize, or British Honduras.—The possession of this colony was long disputed by the Spaniards, but was finally yielded to Britain in 1783.

It is chiefly valuable for the excellent mahogany and logwood which we obtain from it. Along the coast it is low and swampy, forests of mahogany and cedar occupy the interior, but the climate is healthy.

The colony is well adapted for raising sugar, coffee, cotton, and indigo. The population is composed chiefly of negroes, who were first brought to the country as slaves. The white inhabitants are exclusively occupied in commerce; the negro, in cutting mahogany and dye-woods for exportation, and in fishing. Till recently the Colony formed a dependency of Jamaica; but it has now a Government of its own. Area, 13,500 square miles; population (1861), 25,635.

WEST INDIES AND BERMUDAS.

Position.—The Antilles, or West Indies, consist of a huge archipelago of nearly one thousand islands, extending in a curvilinear line between the peninsula of Florida and the delta of the Orinoco, and separating the Atlantic Ocean from the Caribbean Sea and Gulf of Mexico. Lat. 10° — 27° N.; lon. 59° — 85° W.

They are called *Antilles* from their position being opposite to the American continent, and *West Indies* from Columbus, their discoverer, imagining that they formed the nearest portion of India, a westerly passage to which he was in quest of. The entire archipelago is physically divided into four distinct groups—viz., 1. The Bahama Islands, S.E. of Florida. 2. The Greater Antilles, between the Bahamas and Central America, and comprising Cuba, Jamaica, Haiti or San Domingo, and Porto Rico. 3. The Lesser Antilles or Windward Islands, between Porto Rico and the mouth of the Orinoco. 4. The Leeward Islands, off the coast of Venezuela, and partly belonging to that country.

Area and Population.—Including the Bermudas, E. of South Carolina, the area is estimated at 93,650 square miles, and the population at 3,970,604. Thus, while the area is considerably larger than that of Great Britain, the population is only one-sixth of the population of the latter, there being only 40 persons to each square mile.

Political Divisions.—With the exception of Haiti (which is independent), and some in the Leeward group, which belong to Venezuela, the entire archipelago is in the possession of European nations. Spain having lost possession of Dominica, or the eastern portion of San Domingo, about one-half of the entire area belongs to that country. Next to Spain, Britain has the largest portion; after which rank France, the Netherlands, Denmark, and Sweden, thus:—

GOVERNMENT.	ISLANDS.	Area in Square Miles.	Population in 1861.
Haiti, &c.	Haiti and St Domingo	28,863	708,000
Spain . .	Cuba, Porto Rico, &c.,	49,478	979,838
Britain .	Bermudas, Bahamas, Jamaica, and most of the Windward Islands,	15,585	941,471
France .	Guadeloupe, Martinique, and some smaller islands,	405	276,510
Netherlands	Curacao, Buen Ayre, &c. (Leeward Group),	368	31,931
Denmark	St Johns, St Thomas, and Santa Cruz,	119	38,137
Sweden .	St Bartholomew (Windward Group),	16	2,800
	Total,	93,650	970,604

The following are the principal towns in the archipelago:—

INDEPENDENT.—Port-au-Prince 21, Cape Haitien 10 (in Haiti).

SPANISH.—San Domingo 15, Santiago 12 (now independent), Havana 196, Santiago 24, Matanzas 36, Porto Principe 30 (in Cuba), San Juan 15, (in Porto Rico).

BRITISH.—Nassau, capital of Bahamas 7 (New Providence), Spanish Town 6, Kingston 32, Port-Royal 15 (Jamaica), Port España 12 (Trinidad), Bridge Town 21, (Barbadoes), St John (Antigua), Hamilton (Bermudas).

FRENCH.—Basse-Terre 6, Point-à-Pitre 20 (Guadeloupe), Fort Royal 12, St Pierre 23 (Martinique).

DUTCH.—Williamstadt or Curaçao 7 (Curaçao).

DANISH.—Christianstadt 10 (Santa Cruz).

SWEDISH.—Gustavia 10 (St Bartholomew).

Descriptive Notes.—*Port-au-Prince*, formerly capital of the island San Domingo, and now of the Haitian Republic—is a place of some commercial importance, situated on the W. coast. *San Domingo*, cap. of Dominica, formerly the Spanish portion of the island, was the first permanent settlement made by Europeans in America, having been founded in 1502, and is now the oldest existing city in the New World. The bones of Columbus remained in the cathedral of San Domingo till 1795, when they were removed to Havana. *Havana*, capital of the island Cuba, on its northern coast, is the largest city in the West Indies, and one of the greatest commercial marts of the western world. About one-half of the inhabitants are whites, the remainder being slaves and free coloured negroes: its principal article of manufacture is cigars, which have long obtained an almost universal celebrity. *Santiago*, a fortified town on the S.E. coast, is the oldest town in Cuba, of which it was formerly the capital, and is still, next to Havana, the most commercial in the island. *Porto Principe*, in the interior, is a poor, ill-built, but large town. *San Juan*, capital of the island Porto Rico, is strongly fortified, has an excellent harbour, and is a large, well-built town. *Nassau*, in New Providence, the capital of the Bahama Islands, is a neat, well-built town, with spacious streets, handsome houses, and a considerable trade: the principal exports are cotton, pimento, and salt. *Spanish Town*, capital of Jamaica, is a small, ill-built, and unhealthy town. *Kingston*, the chief commercial city in Jamaica, stands on a fine harbour on the S.E. coast: it is well built, has extensive trade, and steam communication with England and several West Indian ports. *Port España*, capital of Trinidad, is a handsome town on the W. coast, with a spacious harbour and considerable trade. *Bridge Town*, capital of Barbadoes, England's first colony, is a large, gay, and handsome town, and one of the strongest military posts in the West Indies. *St John*, capital of Antigua, is the seat of government of the Leeward Islands. *Hamilton*, the principal town in the Bermudas, a group of islands which are chiefly serviceable as a naval station and penal settlement: they export excellent arrowroot, oranges, and cocoa. *Basse-Terre*, capital of the French island Guadeloupe, is the residence of the governor, and has several schools and a botanic garden. *St Pierre*, the largest and most commercial town of the French West Indies, was the birthplace of Josephine, first queen of Napoleon I. *Williamstadt*, the centre of commerce for the Dutch West Indies. *Christianstadt*, the seat of the governor-general of the Danish West Indies, has an excellent harbour defended by a fort and battery, and is the chief entrepôt of commerce with Copenhagen. *Gustavia*, capital of island St Bartholomew, the only colony of Sweden in America, exports some cotton and salt.

Surface and Mountains.—The different islands exhibit great diversity of aspect—some being tame and low, others bold and mountainous.

The Bahamas or Lucayos, consisting of a vast number of small, low, flat islands, are composed of banks of sand or coral, and surrounded by reefs, rocks, and shoals. The Great Antilles consist of one immense mountain-chain, extending, with certain depressions now occupied by arms of the sea, from Cape St Antonio in Cuba, to the eastern extremity of Porto Rico, and thence prolonged through the Lesser Antilles to the N.E. coast of South America. It attains its maximum elevation in the eastern end of Cuba, where the Montanos del Cobra reach to the height of 7200 feet. St Domingo is traversed by parallel mountain-chains, Mount Chaco being upwards of 8,900 feet high. The Blue Mountains, in

Jamaica, vary from 5000 to 6000 feet; in Porto Rico the height does not exceed 4000 feet; while many of the Lesser Antilles rise to elevations of between 4000 and 5000 feet. The majority of the islands are of volcanic origin, but many are of coralline formation.

Climate.—With exception of the northern Bahamas, which lie beyond the tropic of Cancer, the entire West Indian Archipelago is situated in the torrid zone. The heat is consequently very great on the lower grounds, where, however, it is tempered by the sea-breezes, which generally blow in the afternoon, when their cooling agency is most needed. In the elevated regions of the larger islands the temperature is usually cool and delightfully pleasant.

Snow is never known to fall, but slight frosts occasionally occur in the mountainous districts of Cuba. The mean annual temperature at Havana is 77° Fah.; mean winter, 73°; mean summer, 81½°. All the islands south of the 18th parallel have two dry and two wet seasons. The long dry season sets in about the end of November and continues till the beginning of March, during which time the sky is cloudless for several weeks and even months in succession. The long rainy season commences in July and continues till the month of November, when the rain falls in torrents, but rarely lasts for many hours continuously. It is ushered in by violent gusts of wind accompanied by terrific thunder-storms, and during their continuance the destructive yellow fever and other diseases are prevalent.

Natural Products.—The copper mines of Cuba form an invaluable source of revenue to the Spanish crown, and mines of excellent coal have been discovered. Gold, silver, copper, tin, iron, and rock-salt are found in San Domingo, but the mines are now unproductive. In Jamaica no metal is known to exist, except lead and copper, both of which are now being mined with advantage. Porto Rico contains some gold, copper, iron, lead, and coal, but no mines have been wrought until very recently. The mineral products of the smaller islands are unimportant. Salt is plentiful in the Bahama Islands, and asphalt in Trinidad.

The flora is intermediate between that of South and Central America, from both of which, however, it is distinguished by its great quantity of ferns and orchidaceous plants. Among the principal articles which the Archipelago supplies to the commerce of the world are coffee and sugar (both of which were introduced by Europeans), rum, molasses, cotton, tobacco, cigars, arrowroot, and Jamaica pepper. Other articles of less importance are indigo, ginger, cochineal, logwood, and various other medicinal plants and dye-woods; together with mahogany, lignum-vitæ, and other trees whose woods are susceptible of the finest polish. The fruits are numerous and highly luxuriant, comprising the pine-apple, cocoa-nut, pomegranate, mango, guava, orange, bread-fruit, and banana. Maize, or Indian corn, is extensively grown throughout the Archipelago, forming the main staple of food. The wild quadrupeds which existed in the Archipelago when the Spaniards first arrived were the agouti, peccary, racoon, Indian dog, and wild-boar. These are now all extinct, with the exception of the wild-hog and monkey, which are still found on several islands.

Ethnography.—At the time of their discovery the southern islands were inhabited by the fierce and warlike Caribs; the more northern by a gentler race, the Arrowauks. Both these nations have long been extinct, with the exception of a few families of Caribs in the islands of St Vincent and Trinidad.

The indiscriminate and wholesale butchery of the natives will ever remain an indelible stigma on the Spanish name. The first settlement of the Spaniards in Cuba took place in 1511; and in less than half a century afterwards, the aborigines, who are supposed to have amounted to at least 1,500,000 persons, had become extinct. The inhabitants of Hispaniola, estimated at 1,000,000, were, in like manner, reduced, in the first fifteen years after the arrival of the Spaniards, to 60,000, and in nine years more to 10,000. The present population, amounting to nearly four millions, consists of three classes—whites, negroes, and mulattoes.

In Cuba and Porto Rico the negroes constitute about one-half of the entire population, in the British islands about three-fourths, and in the others about two-thirds. The negroes were introduced as slaves from Africa, but slavery is now abolished in all the islands, except those belonging to Spain, which now enjoys the unenviable distinction of being the only civilised country in the world which directly and avowedly carries on the slave trade in all its horrors. Slavery was abolished in the colonial possessions of Great Britain in 1834, when the British Parliament voted for the liberation of the negroes no less a sum than twenty millions sterling—a sum unparalleled for such a purpose in the annals of our race. All the slaves remaining in the Dutch colonies were liberated in 1863.

LANGUAGE AND RELIGION.—The languages principally spoken in the West Indies are Spanish, French, and English. The negroes and mixed races in the several islands generally speak the language and profess the religion of the white race dominant in each.

EDUCATION AND GOVERNMENT.—Education is at a very low ebb in the West Indies, not excepting the British possessions, most of the opulent persons in which send their children to be educated in the mother-country. Codrington College, in Barbadoes, is a thriving institution, and the most important educational establishment in the Archipelago. Cuba, Dominica, and Porto Rico are each governed by a Captain-General appointed by the Spanish Crown. The government of the French possessions is conducted by a Governor and Colonial Council of French residents; that of the Dutch is vested in a Stadtholder, assisted by a Civil and Military Council. The government of Jamaica is vested in a Governor and a Council of 12 members nominated by the Crown, and a Legislative Assembly of 45 members, who are elected by all male inhabitants possessed of freehold property to the value of ten pounds a-year. The Bahamas, Bermudas, and each of the other British islands, have a representative government constituted after the model of that of Jamaica.

SOUTH AMERICA.

Boundaries.—N., the Caribbean Sea; W., Central America and the Pacific Ocean; S., the Antarctic Ocean; E. and N.E., the Atlantic. Lat. 12° 20' N.—56° 7' S.; lon. 34° 30'—83° W.

Point Gallinas, its northern extremity, is on the same parallel with Capes Roxo and Guardafui in Africa, the cities Aden, Madras, and Bankok in Asia, and Leon in Central America; while its central point (lat. 22° S., lon. 58° W.) is in the same latitude with Lake Ngami in S. Africa, N.W. Cape in Australia, and Tarija in Bolivia. In form, this continent bears a striking resemblance both to Africa and North America, being like them pear-shaped, with the narrow extremity directed towards the south. The extreme length is about 4800 miles, and the maximum breadth about 3000 miles. The coast-line is estimated at upwards of 12,000 miles, being only one-half of that of N. America; but this deficiency of seaboard is in a great measure compensated for by the great number of large rivers, which are in general navigable nearly to their sources.

Area and Population.—The aggregate area of the different states, as exhibited in the following table, is 7,028,000 square miles, and the aggregate population, 27,170,932. This area is double that of Europe, while the population is little more than that of Great Britain.

Political Divisions.—The continent embraces 33 different states; but if we regard the Granadian and Argentine Confederations as forming one state each, the number will be reduced to 14. With the exception of Brasil and Guiana, all the states of S. America have adopted the republican form of government.

TABLE OF SOUTH AMERICAN STATES.

NAME	Area in Eng. Square Miles.	Population at last Census.	CAPITAL	River, &c., on which the Capital stands.
United States of Colombia	514,325	2,794,473	Bogotá . . .	San Francisco.
Venezuela . .	426,712	1,694,000	Caracas . . .	n. N. Coast.
Ecuador . . .	219,000	1,040,371	Quito . . .	Esmeraldas.
British Guiana	76,000	148,026	Georgetown .	Demerara.
Dutch Guiana	62,850	110,118	Paramaribo .	Surinam.
French Guiana	85,080	25,280	Cayenne . . .	I. Cayenne.
Brazil . . .	3,231,000	11,780,800	Rio de Janeiro	E. Coast.
Perú	510,090	3,199,000	Lima	W. Coast.
Bolivia . . .	374,480	1,987,352	Chuquisaca .	Pilecomayo.
Chile	116,043	1,908,000	Santiago . . .	Mapocho.
Argentine Conf.	896,900	1,787,000	B. Ayres . . .	Rio de la Plata.
Paraguay . .	75,000	1,000,000?	Asuncion . . .	Paraguay.
Uruguay . . .	66,800	240,965	Monte Video .	Rio de la Plata.
Patagonia . .	400,000?	400,000	Punta Arenas	Str. of Magellan.
Total . . .	7,028,000	27,170,000		

Surface.—The Andes, a vast mountain-chain, with its plateaux and declivities, stretch along the western coast from the Isthmus of Panamá to Cape Horn, dividing the continent into two unequal slopes, and covering nearly a sixth part of the entire area.

The remainder of the surface consists, for the most part, of three immense plains, watered respectively by the Orinoco, Marañon, and Paraná. The first of these, named the *Llanos*, is bounded on the N. by the Parimé, a cordillera of the Andes; and on the S. by the sierras that divide Colombia from Brazil. It is one of the most level portions of the earth's surface, having, at a distance of 450 miles from the ocean, an elevation of only 192 feet. The basins of the Marañon and Paraná, lying south of it, are enclosed between the Andes on the west, and the Brazilian mountains on the east. The former of these is the largest river-basin in the world, having an area of a million and a half square miles. It is separated from the basin of the Orinoco by a water-parting so low that the Rio Negro, one of its principal tributaries, sends off a branch, named the Casiquiare, to meet the Orinoco—the two basins thus merging into one another; while the Madeira, another of its tributaries, rises only a few miles distant from the head-waters of the Paraguay, which finds its way southward to the Paraná, both affluents being navigable to their sources. These three vast river-basins are thus virtually interlocked, and a mighty circle of inland navigation, which is without a parallel in any other part of the globe, is established by natural means.

Isthmus and Peninsulas.—Isthmus of Panamá, uniting Southern with Central America; Peninsula of Paraguana, N.W. of Venezuela; Peninsulas of Tres Montes and St Josef, on the W. and E. sides of Patagonia.

Capes.—St Francisco, W. of Ecuador; Blanco and Aguja Point, N.W. of Peru; Froward, the most S. point of the American continent; Horn, the southernmost extremity of the New World, S. of Tierra del Fuego; Corrientes and St Antonio, E. of Buenos Ayres; Sta Maria, E. of Uruguay; Frio, St Thome, and St Roque, E. of Brazil; Branco, the most easterly point of America; Do Norte, N. of Brazil; Point Gallinas, the northernmost point of South America, N.E. of New Granada.

Islands.—The Galapagos group, W. of Ecuador; Chincha Islands, W. of Peru; Juan Fernandez, W. of Chile; Chilée, Wellington, and

Madre de Dios Archipelago, W. of Patagonia; Tierra del Fuego, S. of Patagonia; Falkland Isles and South Georgia, S.E. of Patagonia; Margarita, Tortuga, Buen Ayre, and Curaçao, N. of Venezuela.

The *Galapagos*—so called by the Spaniards because they abound in turtles—are a group of islands situated under the equator, 730 miles W. of Ecuador. They are thirteen in number, are all volcanic, generally sterile, and for the most part uninhabited. The flora and fauna are to a large extent peculiar, especially the birds and reptiles. The *Chincha Islands*, with their rich deposits of excellent guano, constitute a mine of wealth to the Peruvian Government. *Juan Fernandez* is famous as having been the residence of Alexander Selkirk, whose adventures suggested the well-known tale of 'Robinson Crusoe.' *Tierra del Fuego* ("land of fire"), so named from the volcanoes with which it abounds, consists of a cluster of islands off the S. coast of Patagonia, from which it is separated by the Strait of Magellan. Some of the islands are level and pretty well wooded, producing birches and evergreens. The inhabitants, who subsist by fishing and hunting, are among the lowest in the scale of humanity. *Falkland Isles*, a group of about two hundred small islands, belonging to Great Britain, in the South Atlantic Ocean, about 800 miles N.E. of Tierra del Fuego: area, 13,000 square miles; population, 566, consisting chiefly of British colonists from Buenos Ayres. Vessels passing round Cape Horn, and whaling-ships frequenting the South Seas, are here supplied with provisions and fresh water. *South Georgia*, about 1000 miles E. of Tierra del Fuego, is a bleak and barren region traversed by lofty mountains which are constantly covered with snow—the heat of summer being sufficient only to melt the snow on the low grounds of the N.E. side. The neighbouring seas abound with seals, and sea-fowl in great numbers frequent the coasts.

Bays, Gulfs, and Straits.—Bay of Panamá and Gulf of Guayaquil, W. of Colombia; Strait of Magellan, between Patagonia and Tierra del Fuego; Gulfs of St George and San Matias, E. of Patagonia; Estuary of Rio de la Plata, between Buenos Ayres and Uruguay; All Saints' Bay, E. of Brazil; Rio Pará and Estuary of the Amazon, N.E. of Brazil; Gulfs of Venezuela and Darien, N. of Colombia.

Mountain Systems.—This continent is traversed in the direction of its greatest length by the Andes (Spanish, *Cordillera de los Andes*), in some respects the most magnificent chain of mountains on the earth's surface.

Commencing at the Isthmus of Panamá and the Caribbean Sea, it extends along the Pacific coast of the continent to its southern extremity, being a total length of about 4500 miles, with a breadth varying from 40 to 400 miles. Though greatly inferior in elevation to the Himalaya, it far surpasses the latter in length and in the extent of surface which it occupies. In some places the chain forms only one ridge, as between Cape Horn and the 20th degree of S. latitude, while in others there are two or more parallel ridges, supporting between them highly elevated table-lands. In general they present a very steep slope towards the Pacific coast, to which they maintain a parallel direction at an average distance of from 20 to 160 miles. No other chain on the earth's surface can vie with the Andes in the number and grandeur of its volcanoes. Proceeding from N. to S. the following are the loftiest summits—those distinguished by an asterisk being active volcanoes:—1. THE ANDES OF QUITO, extending in three parallel ranges from the Caribbean Sea to the 5th degree of S. latitude. They embrace the table-land of Quito, 9600 feet in elevation, and flanked by some of the most majestic volcanoes in existence. *Tolima, in central chain, lat. 5° N., 18,271 feet; *Pichinca, on the equator, 15,924 feet; *Antisana, S.E. of Quito, 19,187 feet; *Cotopaxi, S.S.E. of Quito, 18,875 feet; Chimborazo, 21,424 feet. Height of snow-line, 15,800 feet. 2. ANDES OF PERU, extending in three parallel ranges from lat. 5° to 15° S.—the western range being the loftiest: Knot of Huanuco, 11,800 feet; Nevada de Sasaguanca, N.E. of Lima, 17,904 feet. 3. ANDES OF BOLIVIA, forming the central and most elevated portion of the system (and containing Sorata, or Ancohuma, 24,812 feet high, the loftiest summit of the Western World), extend in two gigantic longitudinal ridges from lat. 14° to 21° S.; Chuquibamba, 15 miles N.W. Arequipa, 21,000 feet; Illimani, 21,150 feet; Cochabamba, 17,078 feet. Height of snow-line, 18,000 feet. 4. ANDES OF CHILE, extending in one mighty

ridge from lat. 21° to 42° S., though of inferior average elevation to the Andes of Bolivia, contain Aconcagua, 23,801 feet, lately regarded as the culminating point of the New World; *Volcano of Chillan, 16,000 feet. Height of snow-line in the S., 8600 feet. For the other mountain-ranges of South America, see under "Colombia," "Guiana," and "Brazil."

River-Basins and Capitals.—With exception of the Desaguadero, which flows from Lake Titicaca, in the Basin of Continental Streams, all the rivers of South America belong to one or other of three oceanic basins—those of the Pacific, Atlantic, and Caribbean Sea. The rivers flowing into the Pacific are mere mountain torrents; the Magdalena is the only one of importance that finds its way to the Caribbean Sea; but those inclining to the Atlantic comprise the most gigantic rivers on the earth's surface. Of these, by far the largest is the Amazon or Marañon, whose direct length is 1769 miles, and including its windings, nearly 4000 miles. It is navigable for large vessels from its mouth to the influx of the Ucayali, and for small craft to the very foot of the mountains, while twenty great rivers, all navigable to their sources, discharge their contents into its stream—thus affording an immense inland navigation of about 50,000 miles, and draining an area variously estimated from 1,500,000 to 2,000,000 square miles.

RIVER-BASIN.	Length of Basin in Eng. Miles.	Area in Geographical Square Miles.	CAPITALS OF STATES AND PROVINCES.
Magdalena, .	700	72,000	BOGOTÁ' (Granadian Confederation), ANTIOQUIA, TUNJA (Boyaca), POPAYÁN (Cauca).
Orinoco, . .	1000	252,000	ANGOSTURA, VARINAS (Orinoco).
Essequibo, .	400	61,650	GEORGE TOWN (British Guiana).
Amazon, . .	2100	1,512,000	MANAOS or Barra (Rio Negro), La Paz, EXALTACION (Beni), Santa Cruz, Cochabamba.
Tocantins, .	1260	284,480	PARÁ, Goyaz.
Paranahyba, .	650	115,200	Oeiras (Piauí).
S. Francisco, .	900	187,200	MACAYO (Alagoas), Sergipe, Ouro-Preto, (Minas Geraes).
Paraná, . .	1600	886,400	MONTE VIDEO (Uruguay), BUENOS AYRES, PARANÁ' (Entre Ríos), SANTA FE', CORRIENTES, ASSUNCIÓN (Paraguay), SAN LUIS, CORDOVA, SANTIAGO, TUCUMÁN, CATAMARCA, SALTA, JUJUY, CHUQUISACA (Bolivia), Tarija, Potosí, Cuyaba (Matto Grosso).

Lakes.—There are very few permanent lakes of any magnitude in S. America, and those which exist are in general unconnected with the larger river-basins.

On the table-land of Bolivia, at an elevation of 12,847 feet, is Lake *Titicaca*, next to Sir-i-Kol, in Bokhara, the highest lake in the world, with an area of nearly 4000 square miles. It is drained by the Desaguadero, which carries its surplus waters to Lake *Uros*, a smaller sheet of salt water about 200 miles to the S.E. Lake *Maracaybo*, in the N.W. of Venezuela, has an area of about 5000 square miles, and is connected with the sea by a narrow channel 12 miles long. Lake *Des Patos*, in the S.E. of Brazil, 5000 square miles, discharges its waters into the Atlantic by a channel named Rio Grande do Sul. There are numerous lakes in La Plata, between the Andes and the river Paraná, the chief of which are *Guanacache* and *Silveria*.

Climate.—With two-thirds of its area situated between the tropics, the climate of South America is necessarily very hot. Though yielding in this respect to Africa, the corresponding continent of the Old World, the temperature is considerably higher than that of North America; for while the latter has its maximum breadth in the arctic regions, S. America attains its greatest width in the torrid zone.

In contradistinction to the other great divisions of the land, the western shores of this continent are considerably colder than the eastern, owing to the low temperature of the Antarctic Drift Current, which, setting out from the Antarctic Ocean, flows north-eastward against the shores of Chilé, then northward along the coast to the vicinity of the equator. The highest mean annual temperature occurs in the northern parts of Guiana and Venezuela, where it amounts to 81° Fah. South America is also characterised by great moisture, which attains its maximum in the extreme north, where the temperature is highest, but which is everywhere more copious on the eastern than on the western side of the Andes. Within the tropics the wide plains on the east are deluged by the heavy periodical rains from November to May, while the narrow margin between the Cordilleras and the Pacific is almost entirely rainless. In some places the deposition of moisture is surprisingly great: on the north coast of Dutch Guiana 229 inches fall annually, and in certain localities on the east coast of Brazil no less than 276 inches have been observed. As the rainy season, however, is confined to a brief period, the number of clear days is much more considerable than in our temperate climates; while during the long-continued drought that precedes it, the ground is parched, the sun glares with intense radiance, and the wild animals, tormented alike by hunger and thirst, perish in great numbers.

Minerals.—South America has, ever since its discovery, been celebrated for its mineral wealth, and more especially for the abundance of its precious metals.

It was this that excited the cupidity of the Spaniards, and that led to the conquest of Peru in the earlier part of the sixteenth century. Ever since that period till the recent discoveries of gold in California and Australia, a great part of the precious metals used in the world have been brought from America; and, with the exception of the Mexican mines, almost all from the southern continent. The chain of the Andes is richly metalliferous, more especially the countries of Peru, Bolivia, and Chilé; while Brazil, on the opposite side of the continent, yields to few countries on the globe in regard to the variety and riches of its metals and precious stones. *Gold* is found in New Granada, Peru, Bolivia, Ecuador, Chilé, La Plata. *Silver*, in Peru, Bolivia, New Granada, Chilé, and La Plata. *Tin*, in Peru, Chilé, and Brazil. *Lead*, in Ecuador and Brazil. *Copper*, in Chilé, Peru, and Brazil. *Mercury*, in Peru, Ecuador, and Brazil. *Iron*, in New Granada, Bolivia, Chilé, La Plata, and very abundantly in Brazil. *Antimony*, in Brazil. *Coal*, in Chilé, Brazil, and New Granada. *Sulphur*, in Brazil, Peru, and Ecuador. *Salt*, in La Plata, Brazil, Peru, and Bolivia. *Diamonds* are very abundant in Brazil, especially in the province Minas Geraes; and other precious stones in Brazil, Chilé, Peru, New Granada, and Guiana.

Botany.—South America embraces no fewer than six of the twenty-five botanical regions of modern botanists.

The first of these is the "Mexican region," comprising Mexico, Central America, Colombia, Guiana, and Peru, and extending to the altitude of 5000 feet. The natural orders Cactaceæ and Piperaceæ are specially abundant; but other tropical orders are less frequent than in corresponding latitudes of the Old World. Among the numerous cultivated plants of this region may be mentioned maize, Guinea-corn, cassava, yams, batatas, arrowroot, plantain, mango, custard-apples, guava, papaw, pine-apple, cashew, tamarind, vine, Indian fig, chocolate, vanilla, capsicum, sugar, coffee, cotton, and tobacco. The next region, called "Humboldt's region," or the region of "Medicinal Herbs," embraces the loftier belt of the Andes, between the altitudes of 5000 and 9000 feet. Here the medicinal barks of commerce, especially Peruvian bark, are very abundant; the cultivated plants of the lower grounds almost entirely disappear, with the exception of maize and coffee; but potatoes, European fruits, and cereals supply their place. Above this is the "region of *Escallonia* and *Calceolaria*," embracing the highest elevations of

the last-mentioned range, up to 18,000 feet, or the limit of perennial snow. Here tropical forms almost wholly vanish, their place being supplied by the Alpine genera of saxifrages, gentians, mosses, lichens, &c. The fourth, or "Brazilian region," embraces all South America between the Andes and the Atlantic, extending southward to the tropic of Capricorn. This is probably the portion of the globe in which the vegetable kingdom attains its greatest profusion and variety, whether regard be had to the abundance of genera and species, the magnitude of individual forms, the vast extent of the primeval forests, or the numerous climbing and parasitical plants. In place of the few mosses and lichens which cover the trunks and branches of forest trees in temperate climes, in Brazil they are bearded from the roots to the extremities of the smallest branches with ferns, cactuses, orchids, &c. The cultivated plants are the same as in the Mexican region. The fifth region is named "St Hilaire's region," embracing the portion of South America lying between the tropic of Capricorn and the northern limit of Patagonia. Here the flora approaches in a remarkable manner to that of Europe, while it differs entirely, except in Chile, from the floras of the corresponding latitudes of Africa and Australia. The last botanical region is the "Patagonian" or "Antarctic," embracing Patagonia, the Fuegian Archipelago, and the Falkland Isles. The vegetation bears a great resemblance to that of Central Europe, while there is a slight approximation to the floras of Southern Africa and Australia.

Zoology.—This continent forms, with Mexico, Central America, and the West Indies, one of the six zoological kingdoms of modern naturalists. It embraces two provinces of very unequal dimensions—viz., Tropical America, embracing all the countries situated within the tropics, and Austral America, comprising the remainder of the continent.

Of the 1967 existing Mammals, there are 518 found in this zoological kingdom, and of these no fewer than 419 species are peculiar to it. The QUADRUMANA, 74 in number, are all peculiar, and are distinguished from those of the Old World by having prehensile tails, which serve the purpose of a fifth hand. The CARNIVORA, of which there are about 188 species, are nearly all peculiar, and are mostly of small size and fearful of man; the largest of them are the puma and jaguar, the latter being a very formidable animal; but the whole list of savage quadrupeds, so common in Africa and India, is entirely unknown in this continent. Cats, dogs, otters, and skunks are numerous, as also bears, racoons, coatis, and gluttons; while bats are more numerous than in any other part of the world. The MARSUPIALIA are represented by the single family of opossums, which contains 21 species, all of which are found here. Of RODENTIA there are 95 species in Brazil alone. The capybara, the largest of the order, inhabits Brazil, Guiana, and Paraguay; the utia is found in Cuba; the coypu in Chile; the lagotis, viscacha, dusky paca, agouti, acoucha, and cavy, in many places. The EDENTATA are represented by the sloth, ant-eater, armadillo, and by the extinct megatherium and mylodon. The PACHYDERMATA, once so numerous in this continent, as is evidenced by their fossil remains, are now represented by only 4 species—viz., two tapirs and two peccaries. Of the 13 species of RUMINANTS found in this continent, no fewer than 12 are peculiar to it, the most interesting species being the guanaco (which in its tame state is named the llama), the alpaca, the taruga, and the vicuña. When the Spaniards invaded Peru and Chile they found the llama domesticated and used as a beast of burden; its flesh was eaten, its skin prepared into leather, and its wool spun and woven into cloth.

The ORNITHOLOGY of Tropical America exceeds in splendour that of any other region of the globe, comprising no fewer than 624 species, or one-tenth of all known birds. Of rapacious birds the chief is the famous condor of the Andes, one of the most formidable existing species. Huge serpents and other REPTILES abound in the moist and annually inundated plains, the total number in the Tropical Province being 62. The principal species are the alligator, boa-constrictor, and rattlesnake, all of which are peculiar to America. The seas, lakes, and rivers abound with FISH of various kinds, which in Brazil and some of the other countries form one of the most important sources of wealth. The varieties of the INSECT tribes are endless—immense centipedes, scorpions, spiders, ants, termites, locusts, mosquitoes, and chigoes, being the torment alike of man and beast.

Ethnography.—The population of the New World is presently estimated at upwards of 84,000,000, two-thirds of whom belong to the northern continent, and one-third to the southern. It consists of three pure races—viz., the Indians or aborigines, the Negroes or Africans, and the Caucasians or whites (consisting of Europeans with their descendants)—and a mixed race, springing from the union of those of pure blood. The European population amounts to about one-half of the whole; while the other three divisions are nearly equally represented.

The Indian population, including the Esquimaux of the northern regions, who are few in number, and probably of a different origin from the other aborigines, is about equally divided between the two continents, there being 4,000,000 of them in N. America, and 4,100,000 in the southern continent. In Mexico alone they number 5 millions, in Central America 1 million, and in the United States about one-third of a million. South America, unlike the northern continent, exhibits a preponderance of the aboriginal and mixed races. The Negroes number 4,441,766 in the United States; 2,000,000 in the West Indies; while in Brazil they constitute a full half of the population. Except in the Spanish Islands in the West Indies, the negroes are almost entirely in the enjoyment of liberty. How America was peopled, and what is the real affinity of its aboriginal tribes to the rest of mankind, are questions that are still involved in obscurity, notwithstanding the numerous and able investigations that, during the last half-century, have been instituted in every department of the subject. After a careful examination of much that has been written on this very interesting theme, we incline to the opinion that by far the greater portion of the New World was peopled at different points, and from different parts of eastern Asia; that these migrations, though all very ancient, took place at distinct and widely separate periods; but that the ancestors of the present aborigines of the eastern part of North America entered that continent directly from northern Europe, and swept before them the comparatively advanced civilisation which had been developed there before their arrival. The memorials of a population differing in many important respects from the tribes which roamed in America at the time of its discovery by Columbus, yet in other points strongly resembling them, are found in great numbers throughout the whole length and breadth of the continent. (See the Author's 'Manual of Modern Geography,' p. 513.)

LANGUAGES.—The languages spoken by the aborigines of the New World are distinguished from all Oriental tongues by three striking peculiarities:—1. Notwithstanding their great number, they all strikingly resemble each other in grammatical structure—a clear proof of the common origin of the inhabitants. 2. They differ very widely from each other in their roots or vocables, many of them having scarcely a word in common with any other tongue. 3. But their most remarkable feature is their *polysynthetic* or *holophrastic* character—that is, they are all characterised by peculiarly complex forms, somewhat resembling our compound words, each term expressing a number of distinct ideas. In these linguistic features, which so widely distinguish these tongues from all others, we have the best species of evidence that the American continent was peopled at a very remote period of antiquity.

COLOMBIA.

(U. S. OF COLOMBIA, ECUADOR, AND VENEZUELA.)

Boundaries.—N., the Caribbean Sea; W., Costa Rica and the Pacific Ocean; S., Peru and Brazil; E., Guiana. Lat. 12° 20' N.—5° 50' S.; lon. 60°—83° W.

Colombia was the name formerly given to those countries in the north-west angle of South America which, under the dominion of Spain, formed the vice-

royalty of New Granada, the captain-generalcy of the Caracas, and the province of Quito. They continued in connection with Spain till 1821, when they achieved their independence, and formed themselves into the Republic of Colombia. After a brief history of eleven years this state was dismembered, and constituted into three distinct republics—New Granada, Ecuador, and Venezuela—which maintained their integrity till 1858, when New Granada was broken up into the nine independent republics which now constitute the U. S. of Colombia. Bogotá, the capital of Cundinamarca, and formerly of New Granada, situated near the central parallel, has the same latitude as Cayenne in French Guiana, Capes Palmas and Formosa in the Gulf of Guinea, Magadoxo in Eastern Africa, and Penang in Further India.

Area and Population.—The combined area is estimated at 1,160,000 square miles, and the aggregate population at 5,429,000. With nine times the area of the British Isles, Colombia contains only one-sixth of their population. For the area and population of the different states, see the table at p. 259.

Political Divisions.—The U. S. of Colombia consist of nine small states; Ecuador, of three departments; and Venezuela, of thirteen provinces.

UNITED STATES OF COLOMBIA.

PANAMÁ.—Panamá 18 (G. of Panamá), Aspinwall (Caribbean Sea).

MAGDALENA.—Santa Marta 2 (Caribbean Sea), Mompox 10 (Magdalena).

CUNDINAMARCA.—BOGOTÁ 46 n., Honda 6 (Magdalena).

CAUCA.—Popayan 20 (Cauca), Pasto 7 (Patia).

BOYACA.—Tunja 7, Socorro 12 n. (Sogamozo, *affl.* Magdalena).

ANTIOQUIA.—Antioquia 20, Medellín 14 (Cauca).

BOLIVAR.—Cartagena 25 (Caribbean Sea).

SANTANDER.—Pamplona 3 (Cucuta, *affl.* Zulia).

TOLIMA.—Purificacion (Magdalena).

ECUADOR.

QUITO.—QUITO 76 (Esmeraldas), Riobamba 20 (Pastaza).

GUAYAQUIL.—Guayaquil 22 n., Tumbez (G. of Guayaquil).

ASSUAY.—Cuenca 20 (Pauté, *affl.* Amazon).

VENEZUELA.

MARACAYBO.—Maracaybo 20 (G. of Venezuela).

CORO.—Coro 4 (G. of Venezuela).

CARABOBO.—Valencia 16 n., Puerto Cabello 8 (coast).

CARACAS.—CARACAS 50 n., La Guayra 6 (coast).

BARCELONA.—Barcelona 7 (coast).

CUMANÁ.—Cumaná 12, Cariaco 7 (coast).

GUIANA.—Angostura 6 (Orinoco).

APURÉ.—Achaguas 2 n., San Fernando (Apuré, *affl.* Orinoco).

VARINÁS.—Varinas 4 n. (Apuré).

MÉRIDA.—Merida 6 (Chama, *affl.* L. Maracaybo).

TRUXILLO.—Truxillo 4 n. (L. Maracaybo), Guanaré 12 (Guanaré).

BARQUESIMETO.—Barquesimeto 12 (Portuguesa, *affl.* Apuré).

MARGARITA.—Assuncion (Island Margarita).

Descriptive Notes.—Panamá, on the Pacific coast of the isthmus, and at the southern terminus of the railway to Aspinwall, has an excellent harbour and a rapidly increasing trade. Aspinwall, situated in a marsh, on the island Manzanilla, and at the northern terminus of the railway which spans the isthmus, is very unhealthy. Santa Marta has a fine cathedral, and a harbour defended by batteries. Bogotá, capital of the Granadian Confederation, is a large and hand-

some city, with a university and a fine cathedral, and is surrounded by magnificent scenery. *Popayan*, the first city built by Europeans in this region of America, is delightfully situated between two ridges of the Andes, and is a large, handsome city. *Tunja*, at one time capital of the Indian kingdom of Cundinamarca, situated on the eastern slope of the Andes, is a flourishing place. Near it was fought, in 1819, the battle of Boyaca, in which the Spaniards were routed by Bolivar. *Cartagena*, a strongly fortified city and seaport, and the chief naval arsenal in the confederation, contains a magnificent cathedral and several other fine public buildings. *Pamplona*, capital of Santander; near it are mines of gold and silver.

ECUADOR.—*QUITO* (Ké-to), capital of the republic of Ecuador, is a large city situated in a ravine on the east side of the volcano of Pichincha, 9543 feet above the sea. It was nearly destroyed by an earthquake in 1859, when 5000 of the inhabitants lost their lives. Though situated almost under the equator, it enjoys a continual spring, owing to its great elevation and its proximity to lofty mountains crowned with perennial snow. *Guayaquil*, the principal commercial and seaport town of Ecuador, possesses one of the finest harbours on the Pacific. It is noted for its shipbuilding and refined society. *Tumbes*; here the Spaniards, under Pizarro, first landed on the South American coast, in 1526. *Cuenca* is chiefly noted for its university.

VENEZUELA.—*Maracaybo*, a fortified seaport, with a college, and an active trade with the interior. *Coro*, once the capital of Venezuela, is situated near the Gulf of Maracaybo. *Valencia* is finely situated, and has an active commerce with Caracas and Puerto Cabello. *Caracas*, capital of the republic of Venezuela, is noted as the birthplace, in 1780, of General Bolivar, the liberator of Spanish America. It is a large, meanly built city, and has frequently suffered from earthquakes. *La Guayra*, the seaport of Caracas. *Barcelona*, founded in 1634, exports horses and cattle. *Cumana*, with a magnificent harbour, is the principal seaport of the republic. *Angostura*, the chief place of trade in the valley of the Orinoco. *Merida*, with a richly adorned cathedral, was, before its destruction by an earthquake in 1812, the largest city in Venezuela, and is again flourishing. *Trujillo*, named after the birthplace of Pizarro, in Spain. *Barquisimeto* is now but a wreck of what it was previous to the great earthquake of 1812.

Surface and Climate.—The surface of Colombia is highly diversified, having, in the west, the three nearly parallel ranges of the Andes (embracing Cotopaxi, Antisana, Pichincha, and Tolima, the most tremendous volcanoes on the earth's surface, with elevations varying from 16,000 to 19,000 feet, and the huge dome-shaped Chimborazo 21,424 feet); in the east the greatly lower mountains of Parimé, the highest summit of which, Maravaca, attains an elevation of 10,500 feet; and in the centre the magnificent *llanos* of the Orinoco, consisting of immense flats, covered with vast forests and savannahs. The climate in the lower grounds is characterised by great heat, moisture, and insalubrity; but the elevated table-lands enjoy a perpetual spring. Hence, nearly all the towns in this region are situated on the higher grounds.

Natural Products.—These countries, especially Ecuador and the Granadian Confederation, are highly distinguished for their mineral and vegetable wealth.

Ecuador has been very imperfectly explored; but from recent researches it appears that valuable gold-fields line the eastern slopes of the Andes, and that lead and quicksilver abound in many places. The Granadian Confederation contains all the important metals, including gold, silver, copper, iron, tin, lead, and platinum. Coal is found near Bogotá; diamonds, sapphires, emeralds, amber, turquoises, and rock-salt, in several places. The gold mines of Venezuela, which attracted the cupidity of the Spaniards in the seventeenth century, have long ago been abandoned; but copper, tin, and silver, are found in several places; coal of an excellent quality abounds on the coast; and inexhaustible supplies of fine rock-salt occur at Araya. Few mines, however, are wrought in any part of Colombia, the resources of the country having been exhausted by the recent civil wars. The forests afford inexhaustible supplies of timber, dye-woods, cedar,

mahogany, ebony, and other ornamental woods, together with Peruvian bark, caoutchouc, resins, and other gums. The principal cultivated plants are cacao, cinnamon, coffee, cotton, indigo, sugar-cane, maize, and other grains; but the plantain supplies the staple food of the great majority of the people. Numerous herds of cattle are reared in the *llanos*, and their hides form a valuable article of export. Agriculture is conducted in the most indolent and slovenly manner, as is usual where the climate is tropical, the soil highly fertile, the land cheap, the roads bad, the seaports few, and the markets distant. For want of communication with the seaboard, the vast natural resources of Ecuador are at present lying waste—the Brazilian and Peruvian governments preventing free access to the Amazon; while the vastly shorter distance to the Pacific across the Andes is, in most places, all but impracticable. For the fauna, see under “South America.”

Ethnography.—The whole of Colombia formerly belonged to Spain; and the population, as in the other Spanish American states, is composed of different races—Spaniards, Indians, and Negroes, with their mixed progeny, distinguished into five or six different classes, which, collectively, greatly outnumber the pure races.

The Whites or Creoles, though numerically weak, still maintain a leading position, owing to their superior education and intellectual endowments. The Indians, who belong for the most part to the Quichua and Guarani nations, are described as industrious and docile; they are usually the miners, agriculturists, herdsmen, and manufacturers of the different states. The Quichua or Peruvian, once the predominant language of Peru, still prevails in the plateau of the Andes; while the Guarani occupies the eastern half of Venezuela, together with the whole of Brazil. The Negroes are comparatively few in number, and all free—the different governments having abolished slavery in their respective dominions. In religion and education the inhabitants resemble those of the mother country. Manufactures are limited to coarse woollen and cotton stuffs, for home consumption; but in no case does the native industry satisfy the home demand. The great staples of the country are cacao, cotton, tobacco, sugar, coffee, indigo; and these articles, with hides, Brazil-wood, Peruvian bark, gums, and the precious metals, constitute the chief exports. The larger portion of the foreign trade is carried on with Great Britain. Internal commerce is greatly impeded for want of roads, canals, and railways.

GUIANA.

Boundaries.—N. and E., the Atlantic; W., Venezuela and Brazil; S., Brazil. Lat. 1° — $9^{\circ} 20'$ N.; lon. $50^{\circ} 40'$ — 61° W.

The name Guiana was formerly applied to the vast tract bounded in the interior by the Amazon, the Rio Negro, the natural canal of the Cassiquiare, and the Orinoco; but by far the greater part of this area is now included within the territories of Brazil and Venezuela—the Sierra Acary now forming the southern frontier of Guiana. Paramaribo, capital of Dutch Guiana (lat $5^{\circ} 49'$ N.), is nearly on the same parallel of latitude as Bogotá, Pulo Penang, and Monrovia, capital of Liberia; and on the same meridian as Newfoundland, Santarem, and Monte Video.

Area, Population, and Political Divisions.—The area is estimated at 174,000 square miles, being considerably more than that of the British Isles; while the population is 233,424, or less than that of Mid-Lothian. It is divided into British Guiana, in the west, consisting of the three settlements, Berbice, Demerara, and Essequibo; Dutch Guiana, in the centre; and French Guiana, in the east, whose respective areas and population will be found at p. 259.

BRITISH GUIANA.—George Town 29 (Demerara).

DUTCH GUIANA OR SURINAM.—Paramaribo 16 (Surinam).

FRENCH GUIANA OR CAYENNE.—Cayenne 6 (Island Cayenne).

Descriptive Notes.—*George Town*, the capital of the British colony, situated near the mouth of the Demerara, is built of wood, with broad streets intersecting at right angles, and traversed by canals which are crossed by a multitude of bridges. Four-fifths of the population are people of colour. *Paramaribo*, capital of Surinam, considerably resembles *George Town* in its wide streets, canals, bridges, &c.: the streets are lined with orange, lemon, and tamarind trees: it is a place of extensive trade. *Cayenne*, now a penal settlement for political offenders, is a mean-looking, wretched place, and extremely unhealthy.

Surface and Climate.—The maritime region is low and level, but exceedingly fertile, consisting of a rich alluvial soil which extends into the interior for about fifty miles. The country then rises in successive terraces to the Sierras of Parimé and Acary, the latter of which separates it from Brazilian Guiana.

These terraces traverse the country from east to west, and have wide valleys between them, covered with dense forests. The climate is tropical, but more genial than that of most places in the torrid zone, owing to the trade-winds from the Atlantic, the sea and land breezes, and the frequent rains. It has two dry and two wet seasons on the coast, each continuing for three months. The mean temperature of the year is 81°. Violent thunder-storms occur at the change of the seasons, and the annual fall of rain is prodigious, amounting in some places to 229 inches.

Natural Products.—Guiana is not remarkable for its minerals; but rock-crystals and red agates are found in the mountains, and a very fine variety of white clay near Essequibo.

The vegetation is extremely luxuriant, especially in the lower grounds, extensive districts of which are under water during the principal rainy season. Here the soil is so fertile that thirty crops of rice have been obtained in succession without manure. The forest-trees are of the most magnificent description; fruit-trees embrace the pine-apple, guava, cabbage-tree, and several varieties of palm, and medicinal plants abound. Among cultivated plants the sugar-cane holds the highest rank, its cultivation having largely superseded the cotton and coffee formerly grown, but the latter is still extensively raised in the uplands. The fauna resembles that of other parts of tropical America (see p. 263).

Ethnography.—The interior is chiefly inhabited by various tribes of Indians, who are allied to the now almost extinct aborigines of the West Indies. The coasts and settled districts are occupied by European settlers, by emancipated negroes who are very numerous, and by mixed races.

Many labourers have of late years been brought to British Guiana from the East Indies, Madeira, and other hot countries, for the purpose of assisting in the culture of the plantations. The great staple of the various colonies of Guiana are sugar, rum, molasses, coffee, Cayenne pepper and other spices, cotton, and medicinal plants, which are exported in considerable quantities. Internal communication is very defective, the usual mode of travelling being by boats on the rivers.

B R A Z I L

Boundaries.—E. and N.E., the Atlantic Ocean; N., Guiana, Venezuela, and the Granadian Confederation; W., Ecuador, Peru, Bolivia, Paraguay, and La Plata; S., Uruguay. Lat. 4° 30' N.—33° 45' S.; lon. 34° 47'—72° W.

It thus embraces about 38 degrees both of latitude and longitude; the greatest length from E. to W., along the 8th parallel of S. latitude, is 2600 miles; and the greatest breadth, along the 51st meridian, 2440 miles. The city Bahia or San Salvador, near the central parallel, is in the same latitude as San Felipe de Benguela, Mozambique, Capes Londonderry and Melville in Northern Australia, and Lima, the capital of Peru.

Area and Population.—The probable area of this gigantic empire is estimated at 3,231,000 square miles, or more than twenty-five times the size of the British Isles; while, in 1869, the population amounted to 11,780,000, or about one-third of the population of the United Kingdom, being nearly four persons to each square mile.

Political Divisions.—The empire is divided into twenty-one provinces, which have an average area of nearly one and a third times that of the British Isles. They may be conveniently arranged into seven northern, ten eastern, and four inland provinces. The last-mentioned are very thinly inhabited, and are little known to Europeans.

NORTHERN PROVINCES.

AMAZONAS.—Manaos or Barra 4 (Rio Negro), Olivença (Amazon).

PARÁ.—Pará or Belem 25, Cameta 20 (Tocantins).

MARANHAO.—Maranhao 30 (Maranhao), Caxias 10 (Itapicuru).

PIAUHI.—Oeiras 5 n., Parahyba (Paranahyba).

CEARA.—Aracati 2, San Joao do Principe 10 (Jaguaribe).

RIO GRANDE DO NORTE.—Natal 10 (E. coast).

PARAHYBA.—Parahyba 15 (E. coast).

EASTERN PROVINCES.

PERNAMBUCO.—Recife 100, Goyana 13 n. (coast).

ALAGOAS.—Porto Calvo 5 n. (coast), Penedo 14 (San Francisco).

SERGIPE.—Sergipe or San Christovao 2 n. (E. coast).

BAHIA.—Bahia 152, Caxoeira 15 (All Saints' Bay).

PORTO SEGURO.—Porto Seguro 3 (coast).

ESPIRITU SANTO.—Victoria 5 (coast).

RIO DE JANEIRO.—RIO DE JANEIRO 428, Parati 10 (coast).

SÃO PAULO.—São Paulo 22, Porto Feliz 10 (Anhernby).

SANTA CATHARINA.—Desterro 6 (I. Santa Catharina).

RIO GRANDE DO SUL.—Porto Alegre 12 (L. Patos).

INLAND PROVINCES.

PARANÁ.—Curitiba 12 (Curitiba, *affl.* Paraná).

MINAS GERAES.—Ouro Preto 9 n., Piranga 15 n. (Doce), Barbacena 12 n. (Pará).

GOYAZ.—Goyaz or Villa Boa 8 (Vermelho, *affl.* Araguay).

MATTO GROSSO.—Cuyaba 10 (Cuyaba, *affl.* Paraguay), Matto Grosso 15 (Guaparé).

Descriptive Notes.—*Manaos* or *Barra do Rio Negro*, is a small but ancient town on the Rio Negro, near its confluence with the Amazon, possessing some manufactures of cordage, cotton cloth, and tiles. *Pará*, a well-built, handsome town, defended by forts, and exporting india-rubber, isinglass, rice, drugs, and cotton. *Cameta*, engaged in cultivating cotton, rice, tobacco, sugar, &c. *Maranhao*, on an island in the mouth of the river of same name, is an important seaport and commercial town, exporting cotton, rice, and rum. *Natal*, noted for its exportation of Brazil-wood. *Parahyba* has considerable commerce, and contains a military arsenal. *Recife*, one of the most important seaports in Brazil, and the most eastern town in the empire, has a fine harbour defended by a coral-reef, called a *recife*, which serves as a breakwater. *Bahia* or *San Salvador*, a great commercial city and seaport, and, next to Rio de Janeiro, the largest in

South America, finely situated on a high rock; was for a time the capital of the empire; it has a most imposing appearance, especially as seen from the sea. *Rio de Janeiro*, capital of Brazil, and the largest and most commercial city in South America, lies on the western side of a noble bay, deep enough for vessels of the largest size, and so capacious that all the navies in the world might ride in it without jostling one another. The town is well built, much in the European style, with houses of granite four or five storeys high, and is surrounded with the most enchanting scenery. *Porto Alegre* was founded in 1743 by a colony from the Azores. *Curitiba*, capital of new province of Paraná, has some manufactures of coarse woollens. *Ouro Preto* or *Villa Rica*, so named from the rich gold mines found in its vicinity, is the capital of Minas Geraes, the richest mining province in the empire, and carries on an active commerce with Rio Janeiro. *Cuyabá* carries on an active commerce with the metropolis in diamonds, gold dust, hides, and ipecacuanha. The diamond mines have been worked since 1719.

Surface and Climate.—The surface is about equally divided between lowlands and uplands, the former consisting of the immense level plains in the basins of the Amazon and Paraná, which occupy the entire north and west of the empire; and the latter nearly all the eastern half.

Several parallel mountain-ranges traverse the eastern portion of the empire from north to south, separated from each other by affluents of the Amazon, and by the San Francisco. The principal ranges, commencing at the east side, are Sierra do Espinhaço, Sierra da Tabatinga, and Cordillera Grande, the greatest height of which is from 6000 to 7000 feet. The climate for the most part is that of perpetual summer. On the north-east coast and in the entire valley of the Amazon, it is characterised by great heat and moisture, though it is nowhere so oppressive as in corresponding latitudes of the African continent. At Maranhao no less than 230 inches of rain fall annually. On the higher grounds of the centre and east, the temperature is considerably lower, and the fall of rain greatly less. Here, indeed, extensive tracts occur where scarcely any rain falls, while frosty nights are not uncommon. The mean temperature of the year at Rio de Janeiro is 74°; the mean winter, 68°; and the mean summer, 79°. In Brazil, as in all other regions south of the equator, the order of the seasons is the reverse of ours—December, January, and February being the hottest months of the year.

Natural Productions.—Brazil is celebrated for its valuable minerals. Next to Peru and Mexico it has, until recently, furnished more gold than any other country.

The gold is obtained from the sands of the rivers, and is specially abundant in the bed of the San Francisco. Silver, copper, iron, salt, splendid rock-crystals, and beautiful amethysts, are also abundant; while the diamond mines of the inland provinces surpass all others in the world. The vegetable products are still more abundant and valuable, all the tropical plants of the New World being found here in the greatest luxuriance. The forests are the most magnificent on the earth's surface—the *selvas* of the Amazon alone covering an area ten times larger than that of the British Isles—and furnish every variety of useful and ornamental timber, gums, medicinal plants, and dyewoods. The country, indeed, received its present name from the valuable wood called *brasa*, which the Portuguese found on its shores. Cacao, manioc, and caoutchouc are indigenous; while maize, wheat, rice, beans, sugar, coffee, cotton, and tobacco, have been introduced by Europeans. The flour of the cassava plant, which is extensively cultivated, forms the chief food of the humbler classes; while *maté* or Paraguay tea, prepared from the dried leaves of the Brazilian holly, grows spontaneously, and forms their almost exclusive drink. Agriculture is still in its infancy; there is not more than one 150th part of the surface under cultivation, and this portion is entirely limited to the coasts, the banks of some of the rivers, and the mining regions of Minas Geraes and Matto Grosso. The pastures are of vast extent, and prodigious herds of wild cattle roam over the *llanos* or treeless plains, valuable merely for their hides and horns, which are exported in great numbers, their flesh being left to the jaguar, puma, and other beasts of prey. The country also sustains an immense number of domestic animals, principally horned cattle and horses. The fauna is described under "South America," p. 268.

Ethnography.—The population is divided into numerous classes—viz.,

Brazilians or whites, who chiefly consist of Portuguese and their descendants, and number about a million; Indians or aborigines, some of whom are domesticated, while others maintain their savage independence; Africans or negroes, who constitute one-eighth of the entire population, and the great majority of whom are unfortunately still in a state of slavery; Mulattoes, or mixed whites and aborigines; and Mestizoes, or mixed aborigines and negroes.

The importation of slaves from Africa was formerly carried on very extensively, but, in 1854, the emperor sanctioned the law for the suppression of the slave-trade; while, still more recently, he has issued an edict abolishing the introduction of slaves into his dominions. This noble example will doubtless, ere long, manifest the most salutary effects in all parts of the empire. The Brazilians being almost exclusively of Portuguese origin, the Portuguese language is everywhere prevalent; but the independent tribes of Indians continue to employ the dialects of their ancestors. These belong for the most part to the great Guarani branch of the American family of tongues (p. 264). The Roman Catholic religion, which is professed by the great bulk of the population, is the only one recognised by the state; but Protestantism enjoys a very limited amount of toleration. Science, literature, and art have scarcely any existence in Brazil, and popular education is at a very low ebb. The morals of the people exhibit a very dark picture, while the elements required to effect a regeneration seem to be entirely wanting.

Government and Finance.—Brazil was accidentally discovered by Alvarez de Cabral in A.D. 1501, and was first colonised by the Portuguese in 1531. In 1808 King John VI. of Portugal took up his residence in Brazil, and in 1815 constituted it a kingdom. In 1822 it declared itself an independent empire, under Don Pedro, who framed a constitution, vesting the government in a senate and chamber of deputies.

In 1869 the regular army numbered 25,500 men; the navy consisted of 87 ships of war, including 20 steamers carrying 805 guns; the public debt amounted to £58,600,000; the revenue to £9,380,000; and the expenditure to £10,300,000.

Manufactures and Commerce.—Manufactures are in their infancy, being confined chiefly to articles of primary necessity; and almost every branch of industry, not excepting agriculture, is performed by negroes.

The great wealth of the country arises from its raw produce and extensive trade, for which its long line of coast, spacious harbours, and magnificent rivers, afford singular facilities. Railway communication, also, has recently made some progress—there being now 410 miles open for traffic, besides 1030 miles of telegraph. The total value of the imports, in 1870, amounted to upwards of £15,000,000 sterling; and of the exports, to about £18,000,000. Upwards of 62 per cent of the imports are derived from Great Britain, and consist chiefly of manufactured cotton, silk, trinkets, furniture, wax, candles, hats, &c. The exports, which consist chiefly of coffee, sugar, cotton, hides, cabinet and dye woods, drugs, gums, and diamonds, are forwarded to this country to the extent of 43 per cent of their whole value.

P E R U.

Boundaries.—N., Ecuador; W., the Pacific; S., the Pacific and Bolivia; E., Bolivia and Brazil. Lat. 3° 30'—22° S.; lon. 68°—81° 20' W.

The extreme length is 1300 miles, and the greatest breadth 750 miles. Lima, the capital, on the central parallel, is nearly in the same latitude as Bahia on the E. coast of Brazil, San Felipe de Benguela on the western coast of Africa, the northern extremity of Madagascar, and the coast of North Australia; and nearly

in the same longitude as Kingston in Canada, Washington, Jamaica, and the Gulf of Darien.

Area and Population.—The area does not exceed 510,090 square miles, or four times the area of the British Isles; while the population amounted, in 1862, to 3,199,000, of whom 1,600,000 were Indians, 40,000 negroes, 300,000 mestizoes, and 240,000 whites.

Political Divisions.—The Republic was divided in 1845 into eleven departments (besides the two small provinces of Piura and Callao).

LIBERTAD.—Truxillo 6, Lambayeque 8, Payta 5 (N.W. coast).

AMAZONAS.—Caxamarca 7, Guamachuco 8 n. (Marañon).

ANCHAS.—Tarapato 5 n., Mayobamba 7 n. (Huallaga).

JUNIN.—Pasco 14, Huanuco 10 (Huallaga), Huari 7 (Marañon).

LIMA.—LIMA 121 n., Pisco 3 (coast).

HUANCAYELICA.—Huancavelica 6 (Jauja, *aff.* Ucayali).

AYACUCHO.—Ayacucho 18 n. (Jauja).

CUZCO.—Cuzco 48 n. (Ucayali).

AREQUIPA.—Arequipa 38 (Quilca), Islay 2, Arica 4 (coast).

MOQUEGUA.—Tacna 10 n., Moquegua 10 (coast).

PUNO.—Puno 9, Chuquito 5 (Lake Titicaca).

PIURA.—Piura 12 (coast).

CALLAO.—Callao 20 (coast).

Descriptive Notes.—*Truxillo*, a seaport on the N.W. coast, founded in 1535 by Pizarro, who gave it the name of his native town in Spain. *Caxamarca* contains the ruins of the ancient palace of Atahualpa, the last emperor of Peru, who was assassinated here by the Spaniards. *Pasco*, the most elevated city in the world, being 13,720 feet above the sea, is noted for its rich silver mines, which are more extensively worked than any other in Peru. *LIMA*, capital of Peru, is a regular, well-built city about 10 miles in circumference. Owing to the frequency of earthquakes, the houses are rarely more than one storey high, with flat roofs and unglazed windows. It was founded by Pizarro in 1534, and the cathedral, which is splendidly decorated, contains his remains. Lima was long the commercial entrepôt for all the west coast of South America, and it still carries on a large trade through its port, Callao. *Huancavelica*, at an elevation of 11,000 feet above the sea, is noted for its mines of gold, silver, and especially mercury. *Ayacucho*, on the route from Lima to Cuzco, contains a university and a splendid cathedral. Near it is the plain of Ayacucho, where, in 1824, the troops of Bolívar, under General Sucre, defeated the Spanish army, and thus terminated the dominion of Spain in South America. *Cuzco*, the famous capital of the empire of the Incas, and the most ancient of their cities, was, according to tradition, founded A.D. 1043 by Manco Capac, the founder of the ancient Peruvian civilisation. In 1534 it was taken by Pizarro, who felt greatly surprised at its magnificence. The streets were wide and imposing, the palaces superb in the extreme, and the temples richly adorned with ornaments of gold and silver. *Arequipa* is a large well-built town, possessing a considerable trade and numerous manufactures of gold and silver stuffs. *Arica* is the principal seaport of Southern Peru, and of Bolivia, which possesses no good seaport within its own limits. *Tacna* is the depôt of European merchandise for the greater part of Bolivia. *Puno*, on the N.W. shore of Lake Titicaca, at an elevation of 12,847 feet, is, next to Pasco and Potosi, the highest town in the world: the numerous mines in its vicinity are now mostly abandoned. *Piura*, formerly *St Michael*, founded by Pizarro, was the first Spanish colony established in Peru. *Callao*, six miles from Lima, of which it is the port, is a strongly fortified town, possessing the best roadstead on the Peruvian coast.

Surface and Climate.—Peru is traversed throughout its entire length by the lofty chain of the Andes, running from N.W. to S.E., and forming two grand ridges, which divide the country into three widely different physical regions—viz., the Coast, the Central, and the Eastern Regions.

The Western or Coast Region, which is rarely more than 60 miles wide, consists of an arid, rainless, and barren district, covered with sand, and intersected by chains of hillocks that cross it from E. to W. In some parts of this district, no rain has fallen in the memory of man; but above the level of 400 feet, slight showers occasionally occur. The Central Region consists of a lofty plateau of about 12,000 feet of average elevation, which, though difficult of access from the coast, contains numerous cities, towns, and villages, owing to the coolness and humidity of the climate. The Eastern Region consists of immense plains, traversed by the head-waters of the Amazon, and covered with gigantic forests which extend up the mountain sides to upwards of 5500 feet. The climate here is very humid, the crests of the Andes intercepting the equatorial winds, which come laden with moisture from the distant Atlantic. For the elevation of the Andes of Peru, see the general article, p. 260.

Natural Productions.—Peru was formerly more celebrated for its mineral wealth than any other country of South America. The silver mines of Cerro Pasco, and the quicksilver mines of Huancavelica, are amongst the richest in the world. Gold also occurs in limited quantities in Cuzco, and in the various silver mines.

Nearly all the mines of the precious metals are situated in the elevated regions of the Andes, above the line to which cultivation extends—a circumstance which renders the working of them very difficult and expensive. The number of mines that have been worked is above a thousand, but most of them are now exhausted, or from other causes abandoned. Besides the precious metals, the country yields iron, copper, tin, coal, sulphur, saltpetre, and rock-salt. The flora and fauna are described in the general article on "South America." The best guano is obtained from the Chincha Islands, S. of Lima, and from the Lobos Islands, S. of Payta. Peruvian guano is now extensively exported to this country for manure, and is worth about £15 per ton. The guano was known to the aborigines of Peru, and used by them in manuring the land, before the arrival of the Spaniards. The llama, alpaca, guanaco, and vicuña, are natives of the country. The llama has been used as a beast of burden from remote times, but mules are mostly employed for travelling.

Ethnography.—Nearly three-fourths of the entire population of Peru consist of aboriginal Indians; about one-fourth are creoles and mestizos; and the remainder negroes, who number about 40,000.

The great bulk of the Indian population belong to the Quichua or Peruvian nation, who are for the most part confined to the great plateau, many of the smaller towns of which are exclusively inhabited by them. Quichua was the predominant language of this country under the Incas, and is still spoken by nearly a million and a half of people. It is said to be as copious and artificial as the Greek, but as yet no portion of the Scriptures has been printed in it. The remains of palaces, temples, aqueducts, and other monuments of art, found in Peru, sufficiently attest that, when the country fell a prey to Pizarro and his sanguinary companions, the inhabitants had made considerable progress in civilisation. Under the influence of the Spaniards, the character of the natives has greatly deteriorated; agriculture and pastoral employments form now their favourite occupation; while not a few are engaged in mining and other mechanical operations. The creoles, or whites, are tall, slender, and feeble, and are characterised by levity, fickleness, and incapacity of mental toil. Notwithstanding the equality professed by its democratic institutions, the stigma of slavery still attaches to Peru, some of the negroes being yet in a state of bondage. The Roman Catholic is the only form of religion recognised or tolerated by the State. Education is lamentably deficient, and that of the lower orders is wholly neglected.

Government and Finance.—The form of government is republican—the constitution closely resembling that of the United States. The legislature consists of a Senate and a Chamber of Deputies, in the proportion of one deputy to 20,000 inhabitants, and two senators to each province. The executive power is vested in a president popularly chosen for a period of four years, who is assisted by a ministry chosen by himself,

and by a council of state elected by the legislature. The army in 1869 consisted of 16,000 men; and the navy, of 17 vessels, carrying 84 guns; the revenue and expenditure amounted to £4,250,000 each, and the public debt to £12,691,000.

Commerce and Manufactures.—The internal commerce is much impeded by want of good roads, but a considerable amount of trade is carried on with Brazil by way of the Huallaga. The maritime trade is chiefly with the ports on the Pacific coast, but that with Europe is considerable—the exports thither consisting of bullion, Peruvian bark, chinchilla skins, cochineal, cotton, copper ore, alpaca wool, and guano.

The exports do not exceed 80,000,000 dols. annually, of which the government monopoly of guano yields a full half. The produce of the silver mines has fallen off very materially since the end of last century, when it amounted to 5,500,000 dols. per year, while in 1855 it only amounted to 3,000,000 dols. Thus the far-famed riches of Peru are now like the legends of the past. The manufactures are not important, consisting chiefly of coarse cotton and woollen cloths made by the Indians, leather cloaks, and jewellery. The imports in 1869 amounted to 28,000,000 dols.

BOLIVIA.

Boundaries.—E. and N., Brazil; W., Peru and the Pacific; S., Chilé and the Argentine Confederation. Lat. 10° 30'—23° S.; lon. 57°—70° 40' W.

The extreme length from N. to S. is about 870 miles; the greatest breadth about 800 miles. Chuquisaca, the capital, near the centre, is nearly on the same parallel as Victoria in Brazil, Lake Ngami, and Sofala in Africa; and same meridian as Point Gaspé in Canada, St Thomas in the West Indies, and Barcelona in Venezuela.

Area and Population.—The area is estimated at 374,480 square miles, or three times the area of the British Isles. In 1858 the population amounted to 1,987,352, being two-thirds the population of Scotland.

Political Divisions.—The republic presently consists of seven departments and two provinces, nearly all of which are named after their respective capitals.

BENI.—Trinidad 4, Exaltacion (Mamoré, *sub-affl.* Madeira).

LA PAZ.—La Paz 76 n. (L. Titicaca).

SANTA CRUZ.—Santa Cruz 10 n. (Mamoré).

COCHABAMBA.—Cochabamba 40 n. (Mamoré).

CHUQUISACA.—CHUQUISACA 24 n. (Pilcomayo, *affl.* Paraguay).

POTOSI.—Potosi 23 n. (Pilcomayo).

ORURO.—Oruro 8 (Desaguadero).

ATACAMA (Prov.)—Cobija 2 (Pacífico), Atacama (Loa).

TARIJA (Prov.)—Tarija 5 (Tarija, *affl.* Vermejo).

Descriptive Notes.—*Trinidad*, capital of the department Beni or Mojos, contains 4000 inhabitants. *La Paz*, near the eastern shore of Lake Titicaca, and near the base of the snow-capped mountain Illimani, is the commercial metropolis and largest town in Bolivia. The cinchona bark obtained here is the best in the world. *Santa Cruz*, capital of the principal rice-growing state in Bolivia, is the frontier town of the Spanish race, who do not penetrate farther inland. *Cochabamba*, a beautiful city, with a large cathedral and a magnificent palace. *Chuquisaca* or *Sucre* ("place of gold"), capital of Bolivia, on the eastern side of the Andes, and at an elevation of 9342 feet above the sea, has neither trade nor manufactures, and owes all its prosperity to its being the seat of the legislature. *Potosi*, at the foot of the far-famed silver mountain of Cerro de Potosi, at an elevation of 13,330 feet above the sea. The mountain is perforated in all direc-

tions by the mines, only 26 of which are now worked, while 1800 are standing idle. The silver here was accidentally discovered by an Indian upwards of 800 years ago. *Oruro*, another mining town, where 11 silver mines are still worked. *Cobija*, the only seaport of Bolivia; merchants prefer it to Arica, where they have to pay a high duty to the Peruvian Government.

Surface and Climate.—The centre and west are covered with ramifications of the Andes, which here, as in Peru, divide into two cordilleras, enclosing an elevated plateau in which is the Lake of Titicaca, 12,847 feet above the sea. (See under "South America," p. 260.)

The narrow region between the Pacific and the Andes is barren, nearly rainless, and known as the desert of Atacama. The region east of the Andes consists of immense plains watered by the head-streams of the Amazon and Paraná, which have their origin in the eastern cordillera, and is covered with immense forests. The towns are for the most part situated in the plateau region, many parts of which are fertile and well cultivated. The climate varies much in different parts of the country, according to the elevation and the distance from the equator. On the plateau it is cold, and in some places even rigorous, while in the low-lying plain of the east it is insupportably hot.

Natural Productions.—Bolivia is now the most important mining country in South America, but many of the mines have become exhausted or filled with water, and comparatively few of them are now worked with advantage, a result mainly owing to their distance from the coast and the want of roads.

The precious metals are found chiefly in Silurian strata, where these approach the igneous rocks. Gold dust occurs in many of the streams that flow down the sides of the eastern cordillera of the Andes. The silver mines of Potosi are, next to those of Pasco, the most valuable in the world. Mercury was discovered at Huancavelica, in 1567, and for many years yielded a large profit. Iron, tin, lead, antimony, copper, nitre, and sulphur, are found in the department Oruro, south-east of Lake Titicaca. The tin mines in this department are among the richest in the world; and rock-salt, in large veins, occurs in the Cerro de Potosi. The botany of Bolivia is as various as its climate, which ranges from tropical heat to perpetual winter. Forests of boundless extent cover the eastern plains, and the lower zones of the cordilleras. These yield timber fit for every purpose, fruits of every variety, ornamental and dye woods, Peruvian bark, and many other valuable drugs. Paraguay tea abounds in the department Beni; and coca, a plant which the aborigines masticate as the Malays do the betel-nut, and without which they pine and die, grows spontaneously in the hot plains of the interior. Cultivated plants embrace cacao, cotton, tobacco, indigo, rice, barley, oats, maize, sugar-cane, and potatoes. The wild animals include the tapir, jaguar, leopard, monkey, amphibious reptiles, birds, and fishes in great numbers.

Ethnography.—About two-thirds of the population are whites, of Spanish origin. The remainder are Indians, of the Aymara and Quichua nations; of negroes and mulattoes, who are chiefly fugitives from Brazil; and of Choloos, who have sprung from the union of the European with the Indian population.

The Aymara Indians were among the nations formerly subject to the Incas of Peru; they now dwell on the plateau of Titicaca, within the limits of that ancient empire. They number about 372,000, and are probably descended from the same stock as the Quichua Indians, whom they resemble in language, disposition, manners, and customs. They are an intelligent, industrious race, and are largely engaged in agriculture, mining, various branches of manufacture, and in pastoral occupations. Bolivia, under the name of Upper Peru, formed part of the viceroyalty of Buenos Ayres, till, on the subversion of Spanish authority, it achieved, with Peru proper, its independence. Soon afterwards it separated from the latter country, and became an independent republic, assuming the name Bolivia, in honour of its illustrious liberator, General Bolivar, who in 1826 drew up its first constitution.

Government, Commerce, and Finance.—The executive government is vested in a president who is elected for life; the legislative functions

are exercised by a body consisting of three chambers—a senate, tribunes, and censors. The constitution makes ample provision for personal and political liberty; securing religious toleration, the freedom of the press, and the independence of the tribunals.

Roman Catholicism is alone professed by the white inhabitants, but the church is not endowed by the state. The standing army amounts to 2000 men; the receipts and expenditure to nearly £500,000 each. Commerce is greatly restricted by the physical character of the country—stupendous mountain-chains and an arid desert separating the productive portion of the country from the Pacific, and 2000 miles of river navigation from the Atlantic, seaboard. The foreign trade is consequently very limited, consisting chiefly in the export of the precious metals, Peruvian bark, skins, soap, tobacco, and alpaca wool to Europe, and of grain and cacao to Peru; while the imports are mostly confined to iron, hardware, silk, and a few other articles, amounting in the aggregate to £900,000.

CHILÉ.

Boundaries.—N., Bolivia; W., the Pacific Ocean; S., Patagonia; E., the Argentine Confederation. Lat. 23°—43° 20' S.; lon. 68°—74° W.

Chilé, however, claims the much larger territory from Mexillones Bay, N. of the Tropic, to Cape Horn in Patagonia; but the claim is disputed by the Argentine Confederation. Including Chilóe, the length is 1400 miles; while the breadth, between the crest of the Andes and the Pacific, does not on an average exceed 100 miles. Few other countries of equal dimensions enjoy so large an extent of seaboard. Santiago de Chilé, the capital of the republic, situated near the centre, is nearly on the same parallel of latitude as Buenos Ayres, Cape Town, Sydney, and the northern extremity of New Zealand; and nearly on the same meridian as San Domingo, in the W. Indies, and Lake Titicaca.

Area and Population.—The area is estimated at 116,000 square miles, or rather less than the British Isles; and the population, in 1862, at 2,084,945, being two-thirds the population of Scotland.

Political Divisions.—Chilé is divided into thirteen provinces, besides two colonial possessions—viz., Llanquihue, on the mainland, N. of the island Chilóe, cap. Puerto Montt (so called in honour of President Montt), and the territory of Magellan, cap. Punta Arenas, on the Strait of Magellan. The island of Juan Fernandez, 400 miles west of Valparaiso, also belongs to this republic (see p. 260).

ATACAMA.—Copiapo 13, Caldera (N.W. coast).

COQUIMBO.—Coquimbo 14, Huasco (coast).

ACONCAGUA.—San Felipe 12 (Aconcagua).

VALPARAISO.—Valparaiso 75 (coast).

SANTIAGO.—SANTIAGO DE CHILE 115 n. (Maypu).

COLCHAGUA.—San Fernando (Rapel).

TALCA.—Talca 18 (Maule).

MAULE.—Cauquenes n. (Maule).

UEBLE.—Chillan (Itata).

CONCEPCION.—Concepcion 14 (coast).

ARAUCO.—Arauco 1 (coast).

VALDIVIA.—Valdivia 5 (coast).

CHILÓE.—San Carlos 2, Castro 4 (island Chilóe).

Notes on Towns.—*Copiapo*, the most northern town in Chilé, and in the centre of the principal mining district, exports various mineral products. *Caldera*, a seaport town, 40 miles north of Copiapo, with which it is now connected by a railway, which, in some places, is carried to a height of 6000 feet above the level

of the sea—a higher elevation than has been attempted in any other part of the world. *Cochimbo*, one of the chief seaport towns of the republic. *San Felipe* has mines of copper in its vicinity. *Valparaiso*, on the Pacific coast, a large and flourishing city, and one of the principal seats of trade on the whole west coast of America. *Santiago de Chile*, capital of the Chilean republic, contains a university: here, on Dec. 8, 1863, in the Church of La Compañía, occurred the most terrific conflagration ever witnessed in S. America, when 2100 females perished in the flames. *Concepcion* contains a college, and possesses an excellent roadstead. *Valdivia*, the penal settlement of Chile and Peru.

Surface and Climate.—Chile consists of a long, narrow territory, isolated from the rest of the continent by the majestic chain of the Andes, which here form a single ridge, with an average elevation of 12,000 feet.

Near the centre of the chain stands Aconcagua, 23,910 feet high, and forming, next to Sorata, in Bolivia, the culminating point of the New World. Aconcagua is not a volcano, but no fewer than 14 volcanic peaks are enumerated among the Chilean Andes, among the loftiest of which are Chillan and Villarica, each of which attains to a height of 16,000 feet. Few of these volcanoes are now in a state of activity; but earthquakes are of common occurrence, and frequently cause tremendous devastation. Rain falls only during the winter months, from June to September. The months of January and February are the hottest in the year, the thermometer then frequently rising to 95° Fah. in the shade. In the central parts of the country storms of hail, thunder, and lightning are common in the winter season. Snow covers the loftier summits of the Chilean Andes throughout the year, the lower limit of the snow-line being, in the N., 17,000 feet, and in the S. 8300 feet.

Natural Productions.—Chile is by far the most flourishing of the Spanish American republics—the salubrity of her climate, the fertility of her soil, the abundance of her natural resources, and, above all, her proximity to the ocean, giving her a decided superiority over the other countries on the western side of the continent.

Her mineral resources are especially great, embracing gold, silver, copper, lead, iron, zinc, mercury, antimony, manganese, arsenic, tin, sulphur, nitre, salt, coal, and lignite. The extraction and exportation of copper has, of late years, rapidly increased, and this commodity now forms the grand staple of the country. The working of the coal mines is gradually extending, and though the coal is inferior in heating power to ordinary English coal, it is extensively used for steam and smelting purposes. Agriculture is in an extremely backward state, all the methods of improved husbandry used in this country being unknown; but maize is grown extensively in the north, wheat, barley, and other European grains in the centre and south. Chile is the native region of the potato, which is found wild on the slopes of the mountains. Fruits are so numerous and abundant that, in many places, they may be had without money: the figs and olives are of the best quality, and the grape is cultivated with success. Among the animals of prey the chief place must be assigned to the puma or American lion, and to the condor, a magnificent species of vulture peculiar to the Andes, but most common in Peru and Chile. (See under “Argentine Confederation.”)

Ethnography.—In the northern and central provinces the population consists for the most part of the descendants of the Spaniards; but in the south the country is inhabited almost exclusively by Indians, who belong to the Araucanian nation, and number about 70,000 persons.

The whites, or Chileños, contrast favourably with those of the same race in other parts of Spanish America, especially in activity and industry. The advance of civilisation among them is rapid, and more has been done by the Government in diffusing the benefits of education than in any of the neighbouring republics. The religion of the state is the Roman Catholic, and the public exercise of any other form of worship is excluded by law. The great mass of the people remain in the grossest ignorance, and morality is at a very low ebb.

Government, Commerce, and Finance.—The struggle of the colonists for independence began in 1810, and terminated successfully in 1818, by

the battle of Maypu and the formation of a republic. According to the constitution of 1833, the government is vested in a president elected for five years, a senate of 20 members who hold office for nine years, and a chamber of deputies consisting of one for every 20,000 inhabitants.

The army, in 1869, amounted to 8793 men; the navy to one corvette with 11 smaller vessels, carrying 29 guns; the receipts and expenditure to £2,500,000 each, and the public debt to £7,000,000; the value of the exports in the same year was £6,090,000, and of the imports, £5,368,000. The exports consist chiefly of copper, silver, wheat, hides, and tallow; and the imports of cottons, woollens, hardware, silk, paper, wine, sugar, tea, and brandy. As compared with the other South American republics, Chile has made rapid progress in almost every department of natural industry. In the 12 years from 1844 to 1855 inclusive, she made very great progress in the development of her resources. Owing to the great diminution, however, in the yield of her silver mines, and the restricted demand, since 1855, for her agricultural produce, her exports have not increased during the last few years. The want of roads and railways has hitherto greatly affected the productive industry of the country; but recently the construction of railways has made considerable progress, there being 336 miles open in 1870.

THE ARGENTINE CONFEDERATION, OR LA PLATA.

Boundaries.—N., Bolivia; W., Chile; S., Patagonia; S.E., the Atlantic; E., Uruguay, Brazil, and Paraguay. Lat. 21°—41° S.; lon. 54°—70° W.

The extreme length from north to south is 1350 miles, and the average breadth about 700 miles. Buenos Ayres, the Federal capital (lat. 34° 36'), is in the same latitude as Santiago de Chile, the Cape of Good Hope, and Sydney in Australia; and in the same longitude as Cape Breton, George Town in British Guiana, Asuncion in Paraguay, and the Falkland Isles.

Area and Population.—The area is estimated at 896,800 square miles, or more than seven times the area of the British Isles; while the population, in 1869, amounted to 1,466,000, or only two persons to each square mile.

Political Divisions.—The Confederation embraces fourteen independent states, which are under the authority of a despotic military governor, called the Director of the Argentine Confederation.

BUENOS AYRES.—Buenos Ayres 178 (Rio Plata); Rosario 30 (Paraná).

ENTRE RIOS.—Paraná 8 (Paraná).

SANTA FE.—Santa Fé 15 (Salado, *affl.* Paraná).

CORRIENTES.—Corrientes 11 (Paraná), La Cruz (Uruguay).

JUJUY.—Jujuy 7 n. (Vermejo, *affl.* Paraná).

SALTA.—Salta 11 (Salado).

TUCUMAN.—Tucuman 17 n. (Medanos, *affl.* Dulce).

CATAMARCA.—Catamarca 12 n. (Medanos).

SANTIAGO DEL ESTERO.—Santiago 6 (Dulce).

RIOJA.—Rioja 4 n. (Bermejo, *affl.* Lake Guanacache).

CORDOVA.—Cordova 29 (*affl.* Lake Salado).

SAN JUAN.—San Juan de la Frontera 8 (Patos, *affl.* Lake Guanacache).

MENDOZA.—Mendoza 18 (Lake Mendoza).

SAN LUIS.—San Luis 5 (on a river which loses itself in the sand).

Descriptive Notes.—*Buenos Ayres*, so called on account of its salubrity, capital of state of same name, and now again of the Argentine Confederation, is

a large, handsome city, situated on the south side of the estuary of La Plata, 150 miles from its mouth: it is the chief port of the Confederation, and one of the principal commercial cities in South America. *Rosario*, on the right bank of the Paraná, 190 miles above Buenos Ayres, is intended to be the terminus of the Chilean railway across the Andes—the other terminus being Caldera, in the N.W. of Chile. *Paraná*, capital of state of same name, and formerly of the Argentine Confederation, is an active bustling town. *Corrientes* is admirably situated for becoming the emporium of an extensive district of country. *Salta* is noted for its trade in hides and mules. *Tucuman*, capital of the finest and richest state in the Confederation. Here, in 1816, the first congress of deputies from the several provinces of the confederation proclaimed their independence. *Cordova*, on the main road from Buenos Ayres to Potosí, and on the line of the proposed railway across the Andes, has some manufactures of cloth and a trade in wine. *Mendoza*, on the eastern slope of the Andes, is a main entrepôt for the trade between Buenos Ayres and Chile.

Surface and Climate.—Excepting the portion of the country forming the eastern slope of the Andes, and some minor tracts east of the river Paraná, which are mountainous, nearly the whole surface of the Confederation is embraced within the basin of the Paraná, and forms two immense plains of only a few feet in elevation above the sea.

The southern plain, named the *Pampas*, is a dead level, destitute of trees, but covered with luxuriant pasturage, and interspersed with a multitude of salt lakes, some of which are of large size. The channel of the Paraná, at a distance of 400 miles from its mouth, is said to be only one foot in elevation above the sea. The northern part of the country belongs to the plain of *Gran Chaco*, or great desert, which extends from the 28th to the 18th south parallel, and from longitude 58° to 63° W. The northern portion is covered with grass, while the southern, consisting of an arid and desert plain, is inhabited by roving Indians. The climate is characterised by great diversity, but is in general hot and very dry—the Andes on the one side and the mountains of Brazil on the other, intercepting the rain-bearing winds from the two great oceans. The mean annual temperature ranges from 59° in the S. to 73° in the N. In general the heat is not excessive, and the climate is more salubrious than that of other countries equally near the tropics.

Natural Productions.—La Plata is less noted for its minerals than any of the other Spanish American territories.

Small quantities of gold, silver, copper, and lead are found on the slopes of the Andes; but few, if any, of the mines are worked. Coal is reported to be plentiful in the S.W.; salt effloresces in large quantities on the surface of the plains in the Great Salina, where salt lakes abound. Wheat, maize, barley, and other grains, and numerous fruits, are grown in the southern states; and in some of the northern, tobacco, sugar, cotton, indigo, rice, and other tropical productions, are cultivated. Only a very limited amount of attention is bestowed upon agriculture, and all the processes of husbandry are in the most backward condition. The principal wealth of the country consists in its immense herds of horses and oxen, which wander about in the pampas almost in a wild state. Most of the South American wild animals are found in La Plata, as the puma, jaguar, armadillo, tapir, tajasao, bisacacho (a kind of rabbit which is very numerous, the skins of which are now brought to England for furs), deer, and some kinds of monkeys. The guanaco is found in the plains and on the mountains, but the wild llamas, vicuñas, and alpacas, only in the cold regions on the elevated table-lands. The water-hog or carpincho, the largest known rodent, is very common on the banks of the Paraná. The most common birds are the emu, condor, green parrot, wild-duck, pigeon, quail, the carrion-vulture, and several other rapacious birds.

Ethnography.—The population consists of Creoles, who are of Spanish descent, and who form the majority of the inhabitants; of Indians; and of Negroes.

The Creoles are most numerous in Buenos Ayres and the other southern states, while the Indians are chiefly located in the region north of the salt lakes. The former do not lead the same indolent and voluptuous life as in the neighbouring Spanish republics, but busy themselves in pastoral and agricultural operations. The Roman Catholic is almost exclusively the religion of the white population, as

In all the Spanish American republics; but other denominations are tolerated. Primary schools of a very inefficient character exist in some of the towns, but are unknown in the rural districts, and the education of the people is sadly neglected.

Government, Commerce, and Finance.—The government is nominally republican, and the legislative power is vested in a junta of 44 deputies, and a senate; but practically the president assumes the powers of a military dictator, carrying out his own absolute will in the most arbitrary manner.

The army in 1870 amounted to 10,000 men, and the navy to ten steamers, two corvettes, and four smaller war-vessels. In the same year the receipts of the Confederation amounted to £3,380,000, and the expenditure to £3,200,000. The receipts and expenditure of Buenos Ayres are fully equal to those of all the other states. The exports consist of hides, tallow, wool, hair, horns, jerked beef, horses, mules, asses, and a few minor articles, the annual value of which amounts to about £5,600,000; while the value of the imports, which consist chiefly of British cottons, silk, linen, and woollen manufactures, sugar, coffee, tobacco, wine, brandy, and salt, is £6,600,000. Home manufactures are inconsiderable, consisting chiefly of coarse woollen stuffs and morocco leather. The foreign commerce, with the exception of that of Buenos Ayres, is insignificant; but a good deal of internal traffic is carried on between the different states, the roads being better than in most other South American states, and the navigable rivers affording boundless scope for inland trade. In 1871 there were 581 miles of railway open for traffic.

PARAGUAY AND URUGUAY.

Boundaries.—Paraguay is bounded on the E. and N. by Brazil, and on the W. and S. by La Plata. Lat. 21° — 27° $20'$ S.; lon. 54° — 58° $40'$ W. Uruguay has Brazil on the N. and N.E.; the Argentine Confederation on the W.; the Rio de la Plata on the S.; and the Atlantic Ocean on the S.E. Lat. 30° — 35° S.; lon. 53° $30'$ — 58° $22'$ W.

Asuncion, the capital of the former state, has the same latitude as Cape Corrientes, in East Africa, and the centre of Australia; while Monte Video, the capital of the latter, is nearly on the same parallel as Buenos Ayres, Santiago de Chile, Cape of Good Hope, and Sydney.

Area and Population.—The area of Paraguay is estimated at 75,000 square miles, or considerably less than that of Great Britain; while Uruguay has nearly the same magnitude as Paraguay—being 66,800 square miles. The population of the former state, in 1869, was 1,337,431, being less than the population of Wales; while that of the latter in 1870 was 387,421, or less than that of Derbyshire.

Political Divisions.—The former republic is divided into 25, and the latter into 13 departments.

PARAGUAY.—ASUNCION 8, Concepcion 4 (Paraguay, *affl.* Paraná).

URUGUAY or BANDA ORIENTAL.—MONTE VIDEO 126 (Rio de la Plata).

Descriptive Notes.—*Asuncion* or *Assumption*, at the confluence of the Paraguay and Pilcomayo, possesses considerable trade in tobacco, sugar, hides, timber, and especially in *mate* or Paraguay tea. *Concepcion*, the depôt to which the Paraguay tea is brought from the forests on its way to Asuncion. *Monte Video*, so named from a mountain overlooking it, on which stands a lighthouse, is an important commercial city, the rival of Buenos Ayres, which it greatly surpasses as a seaport.

Surface and Climate.—The surface of Paraguay is hilly on the Brazilian frontier, flat in the centre, and marshy in the S.W.; while the

climate, though tropical, is greatly modified by the inequalities of the surface. Uruguay is level along the coast and destitute of wood, but the interior is full of ravines and heights clothed with forests, and abounding with wild animals. The climate, though damp, is generally temperate and healthy; in winter cold winds and heavy rains are prevalent; but ice is unknown, except on the higher elevations.

Natural Productions.—These are, in general, the same as in the Argentine Confederation, to which, indeed, both countries physically belong.

In the forests of Paraguay are found at least 50 varieties of timber. Many of the hills are literally covered with *mate* or Paraguay tea, which is largely exported to most parts of South America, and which is no contemptible substitute for the tea of China. At every meal, and at every hour of the day, it is drunk. Hot water is poured on the powdered leaf, then a lump of burned sugar, and sometimes a few drops of lemon-juice, are added, and the infusion is drunk off quickly. Cattle and horses form the principal wealth of the population in Uruguay, their produce, consisting of hides, horns, jerked beef, and tallow, forming the main articles of export. Jerked or Monte Video beef is now largely exported to Britain, and sold at less than one-half the price of ordinary meat. In 1868, the exports of Paraguay amounted to £520,000, and of Uruguay to £2,529,000.

Ethnography.—In Paraguay the great bulk of the population consists of Indians of the Guarani nation, who here approach nearer the whites than any other of the aboriginal tribes of America.

Civil wars and misrule have seriously impeded the prosperity of Uruguay. It revolted from Spain in 1811, but from 1814 to 1840 it was ruled by a native Creole named Francia, under whom all foreigners were strictly excluded; while more recently the country has had to contend unceasingly against the intrigues and hostility of Buenos Ayres. A colony of Protestant Vaudois has recently been established in the country, from whose superior culture and activity much good may be augured. In its deadly quarrel with Brazil and the Argentine Republic (1868), Paraguay lost one-half its adult male population.

PATAGONIA AND TIERRA DEL FUEGO.

Boundaries.—This extensive country, comprising the entire southern extremity of South America, is bounded on the N. by La Plata and Chilé; on the W. by the Pacific; on the S. by the Antarctic Ocean; and on the E. by the Atlantic.

Extending from lat. 38° to 56° S., it is about 1200 miles long, by 550 miles wide at its broadest part. The area is roughly estimated at 400,000 square miles, and the population at 30,000. The northern extremity is nearly on the same parallel as Cape Egmont in New Zealand, Cape Wilson in Australia, and is 260 miles S. of Cape Agulhas, the southern extremity of Africa. The whole of Patagonia, north of Tierra del Fuego, is now claimed as a colonial possession of Chilé, which has given it the name of the Territorial Colony of Magellan; capital, Punta Arenas, on the Strait of Magellan (see p. 276). The western shore is deeply indented by the ocean, and lined by numerous islands and bold projecting headlands. The Andes extend in one immense unbroken chain along the western side, having an elevation ranging from 8000 feet in the north, to less than 8000 feet in the south, and containing numerous volcanic peaks. The mountainous region is densely clothed with forests, the climate being excessively moist, owing to the prevalence of westerly winds. The eastern part of the country, on the other hand, is arid and sterile, the surface consisting of a series of terraces. Wheat, maize, and pulse, are raised in small quantities in the north. Large flocks of wild cattle and horses roam over the country, but the guanaco is the characteristic quadruped. The Patagonian Indians, described by the early voyagers as a race of giants, are a tall muscular race, generally averaging about six feet in height, leading a no-

madic life, and subsisting by the produce of the chase and by fishing. The shortness of their limbs, and the disproportionate length of the upper part of the body, make them appear remarkably tall on horseback, as they almost always are when out of doors; but the natives of the mountain region, and of the Fuegian Archipelago, are a stunted race, sunk in the deepest degradation.

River-System of South America.

The rivers of South America belong to four great basins—viz., those of the Pacific, Atlantic, Caribbean Sea, and the continental basin of Lake Titicaca.

Basins inclining to the Caribbean Sea.

Rivers.	Towns.	Rivers.	Towns.
Magdalena,	Mompox, Honda, Bogotá, n.	L. Maracaybo, ...	Truxillo, n.
Cauca, L.	ANTIOQUIA, Medellin, POPAYAN.	Zulia,	PAMPLONA, n.
Sogamozo,	Socorro, n., TUNJA.	Chama,	Merida.
Caribbean Sea, ..	Chagres, Aspinwall, CARTAGENA, STA. MARTA.	Co. Venezuela, ...	Puerto Cabello, Valencia, n., La Guayra, CABACAS, Barcelona, Cumana, Cariaco.
G. of Venezuela, ..	Maracaybo, Coro.		

Basins inclining to the Atlantic.

Orinoco,	Angostura.	E. Co. Brazil, ...	Natal, Parahyba, Pernambuco, Goyana, n., Porto Calvo, Sergipá.
Apuré, l.	San Fernando, Achaguas, Varinas, n.	San Francisco, ...	Penedo.
Portuguesa, l.	Barquisimeto.	All Saints' Bay, ..	Bahia, Caxoeira, n.
Guanaré,	Guanaré.	E. Co. Seguro, ...	Porto Seguro.
Co. Guiana,	GEORGE TOWN, PARAMARIBO, CAYENNE.	Doce,	Ouro Preto, n., Piranga, n.
Amazon,	Olivença, Caxamarca, Guamachuco, n., Huari.	S.E. Co. Brazil, ..	Victoria, RIO DE JANEIRO, Parati.
Madeira,	Balsamo.	Lake Patos,	Porto-Alegre.
Guaparé,	Matto Grosso.	Paraná,	MONTE VIDEO, BUENOS AYRES, ROSARIO, PARANA, SANTA FE, CORRIENTES.
Mamoré,	Exaltacion, Trinidad, Sta. Cruz, n., Cochabamba.	Uruguay, l.	La Cruz.
Rio Negro, l. ...	Manas or Barva.	Quarto,	SAN LUIS.
Ucayali,	Cuzco, n.	Salado,	SANTA FE, SALTA.
Jauja, l.	Ayacuchco, n., Huanavelica.	Paraguay,	CORRIENTES, ASUNCION, Concepcion.
Huallaga,	Mayobamba, n., Tarpato, n., Huanuco, Pasco.	Vermejo,	Jujuy, n.
Pastaza, l.	Riohamba.	Tarija, l.	Tarija.
Pauté, l.	Cuenca.	Pilcomayo, ..	ASUNCION, CHUQUISACA, Potosi, n.
Tocantins,	Pará, Cameta.	Cuyabá, l.	Cuyabá, n.
Araguay, l.	No towns.	Curitiba, l.	Curitiba.
Vermelho, ...	Goyaz or Villa Boa.	Anherby, ...	S. Paulo, P. Felix.
Maranhao,	Maranhao.	Pará,	Barbacena, n.
Itapicuru,	Caxias.		
Paranahyba,	Paranahyba, Oeiras, n.		
Jaguaribe,	Aracati, San João do Principa.		

Basins inclining to the Pacific.

Str. of Magellan, ..	PUNTA ARENAS.	Maule,	Canquenes, Talca.
Co. Chilé,	Valdivia, Arauca, Concepcion, Valparaiso, Coquimbo, Huasco, Caldera, Copiapo.	Itata,	Chillan.
		Rapel,	San Fernando.
		Maypu,	SANTIAGO DE CHILE, n.
		Co. Bolivia,	Cobija.

Basins inclining to the Pacific (continued).

<i>Rivers.</i>	<i>Towns.</i>	<i>Rivers.</i>	<i>Towns.</i>
Loa,	Atacama.	N. W. Co. Peru, ..	Huauri, Truxillo,
Co. Peru,	Arica, Islay, Pisco, Tacna, n., Moque- gua.		Lambayeque, Pi- ura, Payta.
Quilca,	Arequipa.	G. of Guayaquil, ..	Tumbez, Guayaquil.
Rimac,	Callao, LIMA.	Esmeraldas,	Quirro.
		Patia,	Pasto.
		G. of Panamá, ...	PANAMA.

Basin of Continental Streams.

Lake Titicaca, ... La Paz, Puno, Chuquito. | Desaguadero, ... Oruro.

OCEANIA.

OCEANIA is the name given by modern geographers to a sixth division of the globe, comprising all the islands and archipelagos in the Pacific Ocean, from lat. 27° 44' N. (Bonin Is.) to 55° S. (Macquarie Is.); and from lon. 95° E. (Sumatra) to 110° W. (Easter I.)

It thus embraces 82° of latitude, and 160° of longitude. Its extreme length from Achen in Sumatra to the meridian which passes through Cape San Lucas in Old California is upwards of 10,000 miles; while the breadth, from north to south, is more than half that distance. The aggregate area and population are extremely doubtful, as many of the islands have been but recently discovered, while all of them are as yet very imperfectly explored. Probably, however, the former does not fall short of 4,500,000 square miles, or one-fifth larger than the continent of Europe; while the latter is generally estimated at about 30,000,000, or less than the population of British Isles at the last census.

Divisions.—Oceania is now usually divided into four great sections, which are tolerably well defined, not only by geographical position, but also by the plants, animals, and races of man which inhabit them. (See Map of Oceania in Johnston's 'School Atlas of General Geography'.)

These large divisions are—1. Australasia or Melanesia, in the south-west, embracing the continent of Australia, Papua, New Zealand, and numerous smaller islands contiguous to them. 2. Malaysia, also called the Eastern or Indian Archipelago, in the north-west, embracing the numerous islands and archipelagos that extend from the north-western shores of Australia and New Guinea to Further India and China. 3. Micronesia, formerly reckoned a part of Polynesia, in the north-east, and consisting of the numerous small islands lying north of the equator and east of the Malay Archipelago. 4. Polynesia, or the South Sea Islands, comprising the numerous archipelagos in the South Pacific Ocean east of Australasia.

I. AUSTRALASIA.

The first of the above-named divisions, termed Australasia from its southern position in relation to Asia, and Melanesia from the dark complexion of its inhabitants, lies about midway between Africa and South America, having Malaysia on the N.W., the Indian Ocean on the W. and S., and the South Pacific Ocean on the E. and N.E. It extends from the equator to lat. 55° S., and from lon. 113° to 180° E. The total area is supposed to amount to about 3,428,000 square miles—that is, to the area of Europe without the islands; and the population to about 2,500,000.

This area embraces the continent of Australia, Tasmania or Van Diemen's Land, New Zealand, Auckland Isles, Antipodes Island, Chatham Isles, Norfolk Island,

New Caledonia, New Hebrides, Queen Charlotte Isles, Salomon Isles, the Louisiade Archipelago, New Britain, New Ireland, Admiralty Isles, Papua or New Guinea, Arcoo Isles, and Timor Laut. "Viewed as a whole, this extensive region is characterised by a very spare population, by a paucity of rivers, by a great preponderance of sandy deserts, and by the singularity of its animal and vegetable products, which exhibit few species, and generally few individuals, but possess such a peculiar organisation that, in many instances, no parallel to it occurs in other regions of the globe." The aborigines consist of two races—viz., 1. Alfoursous, Papuans, or native Australians, in the continent of Australia, New Guinea, New Britain, New Ireland, the Louisiade Archipelago, and New Caledonia, forming, in the opinion of many, a distinct variety of the human race, whose numerous dialects have little affinity with any other language; and, 2. the Maoris, in New Zealand, a Malayo-Polynesian race. (See 'Manual,' p. 603.)

AUSTRALIA.

Geographical Position.—Australia, the smallest of the six continents, has Papua and Malaysia on the N., from which it is separated by Torres Strait and the Timor Sea; the Indian Ocean and Bass Strait (the latter separating it from Tasmania), on the W. and S.; and the Pacific Ocean on the E. Lat. $10^{\circ} 41' - 39^{\circ} 8' S.$; lon. $113^{\circ} - 153^{\circ} 47' E.$

In form, it is of an irregular onion shape, having its greatest extension from E. to W., in which direction it measures about 2500 miles, while its extreme breadth from N. to S. does not exceed 1980 miles. Sydney, the capital of New South Wales (lat. $33^{\circ} 51' S.$), is nearly on the same parallel as Cape Town, Santiago de Chile, Buenos Ayres, and Adelaide.

Area, Population, and Political Divisions.—The area is estimated at about 2,973,000 square miles, or five-sixths of the area of Europe, and the population at 1,555,000 (besides 50,000 aborigines), being above one-half the population of Scotland. The entire continent is a possession of Great Britain, which, during the last eighty-five years, has established five highly prosperous colonies on its eastern and southern shores, viz. :—

NAME OF COLONY.	Area in Eng. Sq. Miles.	Population in 1871.	Year when established.
New South Wales	323,437	501,611	1788
Victoria	86,831	729,868	1851
South Australia	333,323	388,905	1834
Western Australia	978,000	24,785	1829
Queensland	678,000	109,897	1859
North Australia (uncolonised)	523,531	..	..

NEW SOUTH WALES.—Sydney 135, Paramatta 8 (Port Jackson), Liverpool 5 n. (Botany Bay), Goulburn 5 n. (Hawkesbury), Newcastle 7, Maitland 10 (Hunter), Bathurst 7 (Macquarie).

VICTORIA.—Melbourne 194 n., Sandridge 5, Geelong 23 (Port Philip, Sandhurst 35 n., Castlemaine 9 (Loddon), Ballarat 74 (Nurriwillan).

SOUTH AUSTRALIA.—Adelaide 25 n., Port Adelaide 10 (Gulf of St Vincent), Port Elliot (Murray), Kooringa (Burra-burra mines).

WESTERN AUSTRALIA.—Perth 3, Freemantle (Swan River), Augusta (S.E. coast).

QUEENSLAND.—Brisbane 20 (Moreton Bay), Ipswich 4 (Brisbane).

Notes on Towns.—*Sydney*, on the southern shore of the magnificent harbour of Port Jackson, is a large, elegant, commercial city, containing numerous public buildings. Sydney was founded in 1788 as a penal settlement, the inlet of Port Jackson being better adapted for that purpose than Botany Bay, to which the convicts had been transported. At the urgent request of the Australian colonists, the penal settlement has been abolished. The commerce and importance of the city have greatly increased since the discovery of gold at Bathurst in 1851. *Newcastle*, so named from its valuable coal mines, the produce of which is largely exported. *Maitland*, a thriving town on both sides of the river Hunter. *Bathurst*, the principal town in the recently-discovered gold region. *Melbourne*, capital of Victoria, on the Yarra Yarra, eight miles from its mouth in Port Philip, is the great emporium for all foreign goods intended for the colony. Since the discovery of the gold-diggings its commerce has been enormously developed. The exports in 1860 were valued at £12,962,000, about £8,624,000 of which represented gold. *Sandridge*, the port of Melbourne, at the mouth of the Yarra Yarra, is an active bustling place. *Geelong*, the most important town in Victoria next to Melbourne, which it surpasses in the convenience of its situation and the salubrity of its climate. It is the chief port for the wool of the colony. *Sandhurst*, a mining town in the Bendigo district, and a place of great trade, with a railway to the capital. *Castlemaine*, the principal place in the Mount Alexander district, the richest of the gold-fields. *Ballarat*, at the principal gold-field of Victoria, and one of the richest in the world, is fast rising into importance. *Adelaide*, on the Torrens, seven miles from its mouth, is in every respect a thriving and important seat of trade. It has numerous manufactures, and an extensive foreign commerce. *Port Adelaide*, the port of the capital, is the principal seaport town in the colony. *Koorlinga*, in the immediate vicinity of the celebrated Burra-burra copper mines, the most productive in the world. *Perth*, a straggling but finely-situated place on the Swan River, nine miles from its mouth. *Freemantle*, the port of Perth, is now a convict settlement. *Brisbane*, capital of Queensland, a colony established in 1859, and now attracting numerous emigrants, is a small but rapidly increasing town.

Surface and Mountains.—The surface of Australia is still but imperfectly known, though of late extraordinary progress has been made in exploring the interior.

The problem as to the possibility of crossing Australia from S. to N. has at length been solved, and no question now remains that land-transit can be opened up, both for commerce and telegraphic communication, from the one coast to the other, through the centre of the continent. This important discovery we owe to Mr Stuart, who, in March 1860, started from Adelaide for the N., with two companions, and through the most heroic exertions explored the interior to within 300 miles of Victoria River in N.W. Australia, being a total distance of 1600 miles. A more unfortunate though equally successful expedition was that of Burke and Wills, who started from Melbourne, in August 1860, and in February of the following year arrived at the Gulf of Carpentaria. On their return journey the whole party perished from exhaustion, except King, who returned to Melbourne in November 1861. Finally, Mr M'Kinlay, who left Adelaide in August 1861 in search of Burke, crossed the continent to Albert River, flowing into the Gulf of Carpentaria, long. 140° E., and from thence travelled overland to Port Denison, in Queensland, and thence by sea to Melbourne and Adelaide. Instead of an arid desert, as was long supposed, they describe the interior as a rich and fertile country, admirably adapted for pasture and the growth of cereals. In many places the soil is rich, and well supplied with wood and water, while in many more they found fine grass meadows, and splendid gum and other trees, including at least four kinds of palm. The mountain-ranges of Australia are all of moderate elevation, and situated at no great distance from the coast. The eastern coast chain, extending from Cape Melville southward to Bass Strait, in several places rises to 4000 feet; and in the Australian Alps, to fully 7000 feet. Mount Lindessay, near the source of Clarence River, has an altitude of 5700 feet; farther south the Liverpool Range (lat. 32°) attains, in Oxley's Peak, an elevation of nearly 5000 feet. The Blue Mountains, in New South Wales, have an average height of 3300 feet, but Mount Bismarck (lat. 34°), their highest summit, is 4100 feet; while the Australian Alps attain in Mount Kosciuszko a height of 7300 feet, being, so far as presently known, the culminating point of the continent. Following the coast of Victoria west-

ward, we meet the Pyrenees, and to the west of them the Gramplains, attaining, in Mount William, the height of 5600 feet. Entering South Australia, we come to Flinders Range, running in a northerly direction from the head of St Vincent Gulf, 8000 feet.

Capes and Peninsulas.—Cape York in Queensland, the most northern point of the continent; Point Dale and Coburg Peninsula, in North Australia; Capes Londonderry and Leveque, on the N.W. coast; Steep Point, the western extremity of the continent; Cape Leeuwin, the S.W. extremity; Cape Spencer, in South Australia; York Peninsula, between Spencer Gulf and Gulf of St Vincent; Capes Otway and Wilson, S. of Victoria; Cape Howe, the S.E. extremity of the continent; Cape Byron, the eastern extremity; Sandy Cape and Cape Melville, on the N.E. coast.

Gulfs and Straits.—Australia is but little indented by arms of the ocean, and the coasts are generally deficient in good harbours, though Port Jackson in New South Wales, and Port Denison in Queensland, are among the best in the world. Torres Strait, between Australia and Papua; Gulf of Carpentaria, between Cape York and Point Dale; Admiralty Gulf and Exmouth Gulf on the N.W. coast; Shark Bay and Géographie Bay on the W. coast; Great Australian Bight, Spencer Gulf, St Vincent Gulf, Encounter Bay, and Port Philip, all on the southern coast; Bass Strait, between Victoria and Tasmania; Corner Inlet, Botany Bay, Port Jackson, Port Stephen, and Moreton Bay, all on the east coast.

Rivers and Lakes.—Australia is more deficient in its inland waters than any of the other continents; while, with one important exception, the rivers that exist are not navigable to any considerable extent.

The only great river hitherto explored is the Murray, which, with its main affluents, the Darling and the Murrumbidgee, has its sources in the western declivity of the range of mountains that runs along the eastern coast. Following its principal sinuosities, the Murray is nearly 2000 miles in length, while the area of its basin is upwards of 250,000 square miles. It has a general south-westerly course, and enters the Indian Ocean at Encounter Bay, in the south-eastern angle of South Australia. The principal lakes are situated in the colony of South Australia. Lake Victoria, an expansion of the river Murray, close to its mouth, is an extensive sheet of water, 273 square miles in area; Lake Torrens, an immense salt marsh north of Spencer Gulf, 120 miles long, by 20 miles broad; Lake Gregory, N. of Lake Torrens; Lake Gairdner, W. of Lake Torrens; and Lake Blanche, N.E. of Lake Torrens.

Climate.—As the northern third of Australia is situated in the torrid zone, the climate of that portion is necessarily very hot.

At Victoria River, in North Australia, the maximum heat in November at mid-day is 106°; the minimum heat in July, 49°; and the number of rainy days in the year, 84. There seem to be three seasons in North-West Australia—viz., the Wet Season, commencing about December and lasting to February; the Spring or Cool Season, from March to July, which is the healthiest time of the year; and the Dry or Hot Season, from August to November. In general, the climate of the Australian colonies may be considered as very dry—the amount of moisture not exceeding that of Cape Colony and the southern parts of South America, which places they also resemble in their mean annual temperature. The Sydney summer is described as very delightful, and resembling that of Avignon or Constantinople; while its winter is compared with that of Cairo and Cape Town. It is remarked that along the S.E. coast there is a constant variation in the climate of each season through a cycle of 12 years; for six years there is a constant increase of drought, the sixth being entirely rainless; for the next six years there is a regular increase of humidity, the last being a year of almost incessant rain. Mean annual temperature at Melbourne 57.8°, spring 57.5°, summer 66°, autumn 58.6°, winter 49°.

Minerals.—The geological structure of this continent is characterised by great uniformity, the mountain-ranges of the coast consisting of

primary and palæozoic rocks; while the whole of the interior, so far as yet known, is of tertiary formation.

The finest practical result on record of a thorough knowledge of geology, deserves to be stated in connection with these mountain-ranges. The close resemblance of their structure to that of the Ural Mountains led Sir Roderick I. Murchison, in 1845, to predict that they would be found to be auriferous; and, six years afterwards, Mr Hargraves discovered extensive deposits of the precious metal at Bathurst and Wellington, in New South Wales; while since that time the most valuable and extensive gold-fields in the world have been found in various and widespread localities, especially in the province of Victoria. At the International Exhibition, held in London in 1862, a gilded pyramid was exhibited representing the quantity of gold exported from Victoria from 1851 to 1861. It was 45 feet high, 10 feet square at its base, and contained 1492 cubic feet. The total weight of the gold thus represented was 1,793,995 lb., equal to £104,649,728 sterling. Very little gold has as yet been found in South or West Australia; but the former contains inexhaustible deposits of copper of the finest quality. Coal is abundant in New South Wales (especially on the river Hunter), together with iron ore, which will probably, ere long, be turned to good account; coal is also found on the Swan River, in West Australia, a region which also abounds in mercury, zinc, lead, copper, iron, and other ores. Coal is scarce, but iron plentiful, in South Australia. On the whole, the mineral productions of Australia equal, if they do not surpass, in value those of any other continent.

Botany and Agriculture.—The native flora of Australia and Tasmania comprises Schouw's 24th botanic region, named by him "Brown's Region," in honour of the late Robert Brown, justly styled by Humboldt "the prince of botanists."

This region embraces one of the most peculiar floras on the earth's surface. The native trees are all evergreens, and the forests consist principally of gum trees, of which there are upwards of 100 species, acacias, and shrubs or small trees allied to the heath tribe. Of 5710 plants hitherto discovered in this continent, no fewer than 5440 are peculiar to it. Robert Brown alone, in 1805, carried to this country 4000 species, nearly all of which were new to science. Australia produces no native fruits capable of being used as food, excepting a few berries and a kind of chestnut; but along the Murchison river, in Western Australia, are found wild tobacco, and an esculent tuber resembling the potato. All the principal food-plants, however, have been introduced, and are cultivated with great success in the different settlements; while the vine, fig, orange, peach, and numerous other fruits, flourish in the greatest luxuriance wherever they have been tried. In some places, especially in Queensland, the sugar-cane, indigo, and cotton plant are successfully cultivated.

Zoology.—This continent, with the adjacent groups of islands which, with it, constitute Melanesia, forms one of the two provinces into which naturalists have divided the Oceanic Zoological Kingdom. The fauna of this kingdom is the most peculiar and remarkable in the world—nearly all its 150 species of mammals being peculiar to it; the quadrumana, pachydermata, and ruminantia are wholly wanting; the marsupialia, comprising 105 species, and the edentata, 3 species, are all peculiar to it; while of the 21 rodents, no fewer than 19 species are unknown in any other part of the world.

The kangaroo, wombat, opossum, bandicoot, porcupine ant-eater, ornithorhynchus or water-mole, and many other marsupial animals, are all peculiar to this continent and the islands in its immediate vicinity. Of these animals, the largest and most characteristic are the kangaroos, of which there are several species; while the most anomalous, as its name indicates, is the ornithorhynchus, which has the bill and feet of a duck, the body and fur of a mole, and the internal structure of a reptile, which lays eggs like a bird, and suckles its young like a mammal. The kangaroos are vegetable-feeding animals, browsing upon herbage like the ruminants, which some of them also resemble in chewing the cud. Some are of great size, being nearly as tall as a man when in their usual erect position; but others are as small as the common hare, an animal which, in general appearance,

they greatly resemble. None of the larger beasts of prey are found in Australia; the most formidable is the dingo or native dog, which resembles a wolf, and commits serious ravages upon the property of the settlers. When discovered by Europeans, Australia contained no quadrupeds useful to man; but all our domestic animals have now been introduced, especially the sheep, cow, and horse, and they are found to thrive admirably.

Ethnography.—The population of Australia consists, for the most part, of British settlers and their descendants, who number upwards of a million; and of a race of oceanic negroes, who, in some of their peculiarities, approach the true African type, and in others as widely recede from it.

The aborigines are, generally speaking, weak and puny in body, and much inferior, both in moral and intellectual qualities, to the African negro. Their skin is of a dark sooty colour, their stature short, their frame slight and better adapted for feats of agility than of strength. The male sex wander about in a state of almost perfect nudity, while the females are protected by a partial covering of kangaroo-skins. Of arts and manufactures they have scarcely any idea: their cutting instruments are of stone, and their arms of offence consist of spears, boomerangs, clubs, and tomahawks. Of agriculture, even in its rudest form, they have not the slightest knowledge. They possess no flocks or herds, nor do they seem to have any knowledge of barter, or even of property, holding everything in common. They have no houses, but live in holes in the earth, or under the shelter of bark screens. In short, they take rank with the Bosjesmans of Southern Africa and the Fuegians of South America, constituting one of the lowest and most degraded races of mankind. Their number is rapidly decreasing in the presence of the white man, though it is now known to be much greater than was lately supposed. The whole of the habitable interior is found to be densely peopled with aboriginal tribes, who find no difficulty in procuring the means of sustenance. Although the several tribes have each a distinct language, which differs greatly from the others in its roots or vocables, they are all subject to the same laws of construction, and may, therefore, be regarded as members of one family. Though possessing little or no resemblance to the dialects prevailing in the islands lying to the east and north-east, this family is said to bear some striking analogies to the Dravidic dialects of the hill tribes of the Deccan.

Government and Finance.—In 1855 the colonies were placed on the footing of self-government; and since that time they have entered with increased ardour upon the path of progress. In each of the colonies the governor is of imperial nomination, and is assisted by a colonial parliament, which consists of a council and assembly. The colonists are divided into several religious denominations. There is no church established by law, but the clergy of all sects willing to accept government aid receive grants from the public revenues.

Commerce.—Thirty-five years ago Australia scarcely appeared in the commerce of Britain, and three of its colonies had no existence; they now collectively contain 1,500,000 of British colonists. The united imports of the seven Australian colonies, in 1870, amounted to £32,500,000, the exports to £30,459,000, the revenue to £17,505,000, the expenditure to £11,068,000, and the public debt to £35,740,000. The exports to the United Kingdom amounted to £12,147,000, and the imports from it to £13,411,000.

The chief articles of Australian produce are gold, copper, and wool. Of gold, which is chiefly found in Victoria, the annual produce is nearly £12,000,000; of copper, all from South Australia, £500,000; and of wool, contributed in various proportions by all the colonies, but chiefly by New South Wales and Victoria, about 54,000,000 lb. weight, worth about £4,000,000 sterling. Nearly the whole of these valuable productions is now annually conveyed, in a fleet of magnificent merchant-ships, direct to British ports. Extensive railway lines have been projected (1147 miles were completed in 1870); while telegraphic communication is completed between the capitals of Queensland, New South Wales, Victoria, South Australia, and latterly with Tasmania, by submarine cable.

T A S M A N I A.

Tasmania, formerly Van Diemen's Land, a colonial possession of Great Britain, lies S. E. of Australia, from which it is separated by Bass Strait, 160 miles wide. Lat. $40^{\circ} 40'$ — $43^{\circ} 35'$ S.; lon. $144^{\circ} 40'$ — $148^{\circ} 25'$ E.

In form, this island is heart-shaped; its greatest length, which is nearly the same as the breadth, is 180 miles. The area is estimated at 26,215 square miles, or about one-fourth of that of Great Britain; while the population, in 1868, was 98,455, being 4 persons to each square mile.

Chief Towns.—Hobart Town 22 (Derwent), Launceston 10 (Tamar), Richmond 9 (Coal River).

Hobart Town, the capital, in the same latitude as the south of Chil , and Christ Church in New Zealand, is a well-built town, on the Derwent, about 20 miles from its mouth in Storm Bay. The estuary of the river is navigable for the largest vessels up to the town, which possesses a fine wharf, a college, and an extensive foreign commerce. *Launceston*, on the northern side of the island, is the second town in importance in the colony, and carries on a considerable traffic with Victoria and South Australia.

Surface and Climate.—The surface is mountainous and highly diversified, consisting of mountain-ranges, lofty table-lands, isolated peaks, and fertile valleys and plains, generally clothed with forests.

The mountains of Tasmania, instead of being arranged into distinct chains, as in most other countries, are dispersed in irregular groups and isolated peaks over the greater portion of the surface. The loftiest summits in the western half of the island are, Cradle Mountain, 5069 feet, and Dry's Bluff, 4340 feet; while on the eastern side are, Ben Lomond, 5010 feet, and Mount Wellington, near Hobart Town, 4257 feet. These are covered with snow for about eight months in the year. The principal rivers of the country are the Derwent, flowing southward into Storm Bay, and the Tamar, northward into Bass Strait. The climate is delightful and highly salubrious, resembling that of the S. and S. W. of England. The mean annual temperature of the capital is 55° , mean summer 63° , and mean winter 42° Fah. The average fall of rain over the island is $21\frac{1}{2}$ inches. The soil is in most places highly fertile; but being usually covered with dense forests, only a limited portion of the country is yet under cultivation.

Natural Productions.—The mineral treasures of Tasmania comprise iron ore, galena, copper ore, coal, and salt.

Iron ore of very pure quality, and some of it highly magnetic, is of general occurrence. Coal of good quality is worked on the east coast, and is known to exist very generally throughout the island; and salt is obtained in the interior. The vegetation strongly resembles that of Victoria. The trees are all evergreen, the timber being highly valuable, and many of them yielding gums and resins. The fauna also is almost identical with that of Australia, consisting of kangaroos, wombats, opossums, bandicoots, and ornithorhynchi.

Ethnography.—The aborigines, who belonged to the same race as the natives of the continent, are now all but exterminated.

Tasmania was established as a penal colony in 1803, and the convicts first sent thither were of the most abandoned description. In 1852 it ceased to be a penal settlement, except for the convicts already in the island, who now amount to only 3000. Of late years the civilised population has been greatly increased by the influx of emigrants from the British Isles. The staple products are wool, grain, fruits, and timber. The exports, consisting of wool, agricultural produce, and timber, are valued at £1,354,655; and the imports, chiefly manufactured goods from the mother country, at £1,271,087. The form of government is the same as that of New South Wales, from which this colony was dissociated in 1819. The island was discovered by Tasman, a Dutch navigator, in 1642, who named it Van Diemen's Land, after the Dutch governor of Batavia; but it is more properly called Tasmania, in honour of its discoverer.

NEW ZEALAND.

New Zealand, a colonial possession of Great Britain, consisting of a chain of three large and several smaller islands, is situated in the South Pacific Ocean, about 900 miles E. of Tasmania, and 6000 miles W. of Patagonia. Lat. $34^{\circ} 18' - 47^{\circ} 20' S.$; lon. $166^{\circ} 30' - 178^{\circ} 30' E.$

Auckland, the former cap., in the north island (lat. $36^{\circ} 50'$), is nearly on the same parallel as Buenos Ayres, Adelaide, and the Cape of Good Hope. The extreme length, extending in a curved line through the centre of the three largest islands, is more than 1100 miles; while the breadth varies from 150 to less than 15 miles. The area is estimated at 106,259 square miles, being considerably more than the area of Great Britain; while, by the census of 1871, the population amounted to 256,393, besides somewhere about 38,000 aborigines, and the remainder British settlers. New Zealand received its name from the Dutch navigator Tasman, who discovered it in 1642. Captain Cook circumnavigated it in 1769, and took formal possession of it in the name of Great Britain. The first missionary station was established in the Bay of Islands in 1815; but it was not erected into a colony till 1840. The three large islands are now generally known as North, South, and Stewart Islands, formerly called New Ulster, New Munster, and New Leinster.

Political Divisions.—New Zealand is now divided into nine provinces—viz., Wellington, Auckland, Taranaki, Hawkes Bay, in North Island; and Nelson, Marlborough, Canterbury, Otago, and Westland, in South Island. The following are the capitals of the nine provinces:—

NORTH ISLAND.—Wellington 8 (Port Nicholson), Auckland 18 (G. of Hauraki), New Plymouth 3 (W. coast), Napier (Hawke Bay).

SOUTH ISLAND.—Nelson 5 (Blind Bay), Blenheim (Cloudy Bay), Christchurch 5 (Port Levy), Dunedin 13 (Otago Harbour), Hokitiki 4 (W. coast).

Wellington, the new capital of New Zealand, was the first established of the New Zealand settlements. *Auckland*, the late capital, on the E. side of a narrow isthmus, is a thriving town, admirably situated for trade: it was founded in 1840, and is rapidly increasing. *Nelson*, on the north coast of South Island, has abundance of good land in its immediate neighbourhood. *Christ Church*, capital of Canterbury province, was established in 1850, and is a very thriving settlement. *Dunedin*, capital of the province Otago, founded in 1848 by a body of Scotch emigrants in connection with the Free Church of Scotland, has rapidly risen to importance since the discovery of the gold-fields. *Hokitiki*, cap. of the new province Westland, formerly part of province Canterbury, owes its extraordinary rapid rise to the discovery of very productive gold-fields in its vicinity in 1865.

Surface and Climate.—A chain of snow-clad mountains traverses the two larger islands in the direction of their greatest length, throwing off, in North Island, several lateral ranges containing lofty volcanic peaks, amongst which are Mount Egmont (now extinct), 8838 feet, and Tongariro, 6200 feet.

The culminating point of the mountain system of New Zealand is Mount Cook, in South Island (lat. $43^{\circ} 45'$), 13,200 feet high. The climate is universally described as remarkably salubrious and agreeable, milder and more equable than our own, the winters being warmer, while cool refreshing sea-breezes prevent oppressive heat in summer. Heavy rains and high gales are frequent, but there is no rainy season. Mean annual temperature at Dunedin, 50° ; hottest month, 58° ; coldest month, 42° ; annual fall of rain, 80 inches. Snow seldom falls, except in the south, where the elevation of the snow-line is 6000 feet.

Natural Products.—The mineral products are valuable and extensive. Coal is found in many places in both islands, and is already worked with advantage; gold, copper, and iron, in the neighbourhood of Auckland and several other places; while silver, lead, tin, nickel, manganese, alum, sulphur, &c., occur in particular localities. New deposits of the precious metal have recently been discovered in province Otago, which have attracted a crowd of gold-diggers.

The flora of this country forms a botanical centre called Forster's Region, which forms a connecting link between the floras of South America, Australia, and Cape Colony. Already 650 species are known to botanists, a very large proportion of which are plants peculiar to this region. The latter include New Zealand flax, from the fibres of which a cordage of singular tenacity and strength is formed. Ferns cover large areas of the country, often attaining enormous dimensions. The Australian pine, tree-fern, and Kauri, form extensive forests. European grains of all kinds, fruits, and vegetables, grow luxuriantly on the cleared surface, and admirable pasture for cattle is produced by sowing the English grasses. When first visited by Europeans, New Zealand was found to contain no indigenous land quadrupeds, except a small species of dog, a variety of the Australian dingo.

Ethnography.—The aborigines, who are known as Maories, belong to the Malayo-Polynesian race, and differ very widely from the natives of the Australian continent.

They are a tall, well-built, active, and intelligent people, with curling glossy black hair and copper complexion. Many of them have been converted to Christianity, and in some districts they have considerable tracts of land under cultivation. They are very courageous in war, and have at different times been very troublesome to the colonists. The race is rapidly on the decline, and their continual wars with the settlers, will no doubt still further reduce their number. The Maori language is a dialect of the Malayan, and closely resembles the Tahitian and Hawaiian, spoken in the Society and Sandwich Islands. The colonists, who in 1869 amounted to 140,000, are annually receiving large accessions to their number. The emigrants are mostly persons of the middle ranks of life, who, attracted by the climate and fertility of the country, have gone out in companies to lay the foundation of a prosperous nation at the antipodes. New Zealand was formed into a colony in 1840. A free constitution, consisting of a House of Representatives and a Legislative Council, came into force in 1853. In regard to religious statistics, the Church of England has 71,400 adherents; Scottish Presbyterians, 23,000; the Church of Rome, 15,540; and Wesleyan Methodists, 12,600. Wool is more largely exported than any other commodity, next to which are grain, potatoes, timber, and flax. The total exports in 1869, inclusive of gold, amounted to £4,420,000, and the imports to nearly £5,000,000; in 1869, Otago alone exported gold to the value of £1,584,000: revenue and expenditure, about £1,000,000 each; public debt, £7,000,000.

PAPUA, OR NEW GUINEA.

Papua, next to Borneo, the largest island in the world, is situated N. of Australia, from which it is separated by the Arafura Sea and Torres Strait. It extends from the equator to lat. 10° S., and from lon. 130° to 150° E.

In form Papua resembles a reptile, with its back turned to the equator and its belly to the Australian continent: extreme length, 1200 miles; breadth, about 300 miles; the supposed area is 274,500 square miles, and the population of the Dutch portion, about 1,000,000. The climate is excessively wet and insalubrious. The interior is very mountainous—several summits in the western portion of the island rising to about 9500 feet, while in the other extremity they sometimes attain to an elevation of upwards of 13,000 feet. The forests, which cover a large portion of the whole area, and line the mountain-sides to a great height, abound with gigantic trees, among which are the camphor-tree and sago-palm. Papua is the native region of the true aromatic nutmeg, and other spices are found in the woods. Both yams and cocoa-nuts are plentiful, as also rice, maize, and the sugar-cane. Gold is said to occur in many parts of the island. The only quadrupeds known to exist are dogs, rats, wild hogs, and several species of marsupial animals. There are some very singular birds, including birds of paradise, of which this is the native region, and a gigantic pigeon, nearly as large as a turkey. The inhabitants, who are of the same race as those of New Caledonia, New Ireland, and the Feejee Islands, are a powerful, stalwart, negro race, resembling in some respects the negroes of Africa; but the hair, instead of being woolly, like the latter, grows in tufts which stretch out to an enormous length; while, both intellectually and socially, they are immeasurably behind the natives of Africa. They are hideously ugly, with large eyes, flat noses, thick lips, and a black shin-

ing skin. Their natural deformity is increased by their passing bones and pieces of wood through the cartilage of the nose. The Dutch claim possession of the whole western half of the island, up to the 141st meridian. Doreh is the only place where the natives come in contact with Europeans, and there is an active and exclusive trade carried on between it and the Moluccas, under the Dutch flag, consisting of birds of paradise, pearls, gold, fine woods, raisins, bamboos, &c. For the other groups of islands embraced within the limits of Australasia, see above, p. 284, and the author's 'Manual,' p. 685.

II. MALAYSIA.

Malaysia, also called the Eastern, Indian, or Asiatic Archipelago, forms the N.W. division of Oceania, and is the largest collection of islands on the globe. It is situated on both sides of the equator, between Further India and China on the one side, and the continent of Australia and New Guinea on the other, having the Chinese Sea and Strait of Malacca on the N., the Indian Ocean on the W. and S., and the Pacific Ocean on the E. Lat. 11° S.— 21° N.; lon. 95° 20'— 131° E.

The area of the entire Archipelago is roughly estimated at 784,000 square miles, and the population at about 29,000,000. Malaysia is subdivided into seven principal groups—1. The Sunda Islands, in the W. and S.; 2. Borneo; 3. The Celebes; 4. The Moluccas or Spice Islands; 5. The Sanguir group; 6. The Sooloo Archipelago; 7. The Philippine Isles. All these groups are more or less of volcanic origin, and exhibit at the present time active volcanoes in numerous localities. Mountain-ranges of considerable height, as well as isolated mountains, are very prevalent; Mt. Ophir, in Sumatra, probably the culminating point not only of Malaysia, but of all Oceania, is said to attain an elevation of about 13,800 feet. Gold is generally diffused throughout the islands, and several of them contain silver, tin, copper, and iron. The climate, though tropical and moist, is moderated by the surrounding seas. The hills are clothed with forests of the most valuable trees, and the plains yield the richest plants and spices in spontaneous abundance. Palms, bamboos, rattans, teak, ebony, sandalwood, and resinous and gum-bearing trees, together with cloves, nutmegs, aromatic trees, pepper, ginger, cotton, tobacco, sugar, sweet potato, and numerous fruits, are very plentiful. The grains cultivated in the larger and more civilised islands are maize, millet, pulses, and rice; but in the others, sago forms the chief food of the inhabitants. The fauna embraces the elephant, tiger, panther, deer, wild hog, rhinoceros, and many species of the monkey and orang-outang. The ox and buffalo are used for agricultural purposes. Birds of numerous kinds and beautiful plumage fill the woods. Tortoises are numerous in the eastern portion of the Archipelago; while fish, trepang, oysters, and other shellfish are common. The aborigines consist of two distinct races of men—the Malays, who form the great bulk of the population, and the Papuan or black race. The former are characterised by a light-brown or olive complexion, long straight hair, short stature, and robust body, strong and active in their habits, in some localities considerably advanced in civilisation, in others roving pirates. The Malayan language is widespread, extending not only over the Malaysian Archipelago, but also throughout New Zealand, Polynesia, and the Malay Peninsula. It is soft and harmonious in pronunciation, simple and easy in its grammatical system, plain and natural in the construction of sentences, and there are few, if any, of its sounds which cannot be readily articulated by Europeans. Though possessing some distinctive characteristics of its own, a considerable portion of its vocabulary is borrowed from the Sanscrit, while it has been greatly influenced and modified by the Arabic. It possesses a written literature, which, however, is greatly inferior to that of either the Hindoos or Chinese. The Papuans have negro features and curly hair, are generally of small stature and a spare puny form, and are less civilised than the Malays. Mohammedanism is the prevailing religion; the Hindoo faith is professed by a portion of the natives; while Christianity has been introduced into the European settlements. Politically, the Archipelago is held by a number of independent native chiefs, and by the Dutch, Portuguese, Spanish, and British.

The Sunda Islands, in the W. and S. of Malaysia, separate the Indian Ocean from the seas of China and Java, and embrace Sumatra, Java,

Bali, Lombok, Sumbawa, Sandalwood, Floris, Solor, Wetter, Timor, and numerous smaller islands on both sides of Sumatra.

SUMATRA, the most westerly of the group, and, next to Borneo, the largest island in Malaysia, is situated to the S.W. of the peninsula of Malacca, from which it is separated by the Strait of Malacca. It is divided by the equator into two nearly equal parts. The length is 1100 miles; average width, 160 miles; probable area, 172,250 square miles. The population numbers from 2,000,000 to 3,000,000, who are mostly Malays, the remainder being for the most part of the Papuan negro race. It is traversed in the direction of its greatest length by a chain of lofty mountains, which culminates in Mount Ophir under the equator, 13,800 feet high. The soil is exceedingly fertile, and the minerals comprise gold, tin, copper, iron of superior quality, sulphur, naphtha, and an inferior kind of coal. Much of the island is occupied by dense forests, which contain an inexhaustible store of timber and fruit-trees, and the vine is successfully cultivated by European colonists. The principal articles of export are pepper, gold-dust, sulphur, camphor, and gutta-percha. In the N. and E. are several petty native states, the chief of which are Achen and Siak; but the Dutch, who effected a settlement here in 1649, are now the masters of nearly all the territory south of the equator, their principal settlements being *Padang* and *Bencoolen*, on the W. coast.

JAVA, the most important and populous island in Malaysia, and the chief seat of Dutch power in the East, is situated S.E. of Sumatra, from which it is separated by Sunda Strait. Area, 52,000 square miles; population (in 1869) 13,718,717; of whom about 17,000 are Europeans. It is traversed, in the direction of its greatest length, by a mountain-chain, which has a mean elevation of 1000 feet; but many volcanic cones rise to 10,000 feet. Volcanoes are, indeed, more numerous in Java than in any other country of equal extent in the world, and volcanic phenomena are often displayed on the grandest and most terrific scale. The climate is characterised by great heat in the plains, and by numerous earthquakes and thunderstorms. The rainy season extends from December till March. Minerals comprise iron, tin, salt, sulphur, and nitre. The range of vegetation is very great, embracing the palms of the tropics and the mosses of the temperate zone. The far-famed *upas* tree flourishes in the woods, and speedily destroys life if its juices gain access to the animal system, but it neither poisons the air nor injures the surrounding vegetation. Java is the granary of the Asiatic Archipelago, and is supposed to be capable of supporting many times its present amount of population, only about one-third of the surface being under culture. Rice is the principal grain, and is cultivated all along the coast; coffee is the great staple of export; while indigo, tobacco, cotton, cinnamon, maize, pulses, vegetable oils, cocoa, and sago, are other principal products. The Javanese are of the Malay family, and profess Mohammedanism mixed with Buddhism. They possess a national literature, and translations from the Sanscrit and Arabic, and are superior in civilisation to the inhabitants of Malaysia generally. Three-fourths of Java belong to the Dutch, whose first settlement here was formed in 1575. *Batavia*, on the N.W. coast, is the capital of their possessions, not only in Java, but in the East Indies generally: it is a highly important commercial town, with 135,000 inhabitants. *Samarang* (22,000), and *Sourabaya* (130,000), both on the north coast, also belong to the Dutch, and are highly flourishing cities. Nearly all the exports of Java consist of vegetable produce, the principal articles being coffee, sugar, indigo, and rice. Almost the whole of the commerce is carried on with the Netherlands, by means of the Dutch East India Company.

The Borneo Group, comprising the large island of Borneo, in the centre of the Malay Archipelago, with Labuan on the N.W. coast, and Natuna and Anambas between it and the Malay peninsula.

BORNEO, N. of Java and E. of Cape Romania, is the largest island on the globe, having a probable area of 300,000 square miles, or nearly four times the size of Great Britain; the population is estimated at 1,200,000, of whom about 884,750 are subject to the Dutch. The E., S., and W. coasts, with the exception of a few spots, remain quite unknown, as also nearly the whole of the interior. It is traversed by two ranges of mountains, which have a general direction of S.W. and N.E. The loftiest of these, being that nearest the Asiatic continent, attains its highest elevation in *Kini Balu*, 13,698 feet above the sea. Borneo is noted

for the abundance of its valuable minerals, especially for its diamond mines near Pontianak. Excellent coal, said to be superior to that of Newcastle, is wrought in Borneo Proper, Banjarmasin, and Sarawak. Valuable mines of antimony occur in the province Sarawak; while iron, tin, copper, and platina, are found in numerous localities. The flora and fauna are of the most varied and gorgeous description. The inhabitants belong to four races—the aborigines, Malays, Chinese, and Europeans. The aborigines, who are named Dyaks, considerably resemble the natives of the Celebes and of the Australian continent, while their dialects form a link in the great chain of Malayo-Polynesian languages. The Malays have established themselves in great numbers on the coasts and navigable rivers, where they occupy themselves in commercial, but frequently also in piratical, pursuits. The Chinese are very industrious, and conduct exclusively the mining business of the country; while the Europeans are for the most part Dutch and English traders. About two-thirds of the island, comprising the entire centre and south, are tributary to the Dutch, who have here two settlements, *Banjarmassin* and *Pontianak*. The province of Sarawak was purchased from the native chiefs by Sir James Brooke, in 1842, and formally ceded to the British Government in the year following. The province of Borneo Proper, which extends over the level space on the N. coast, is also tributary to Great Britain. Its capital, *Borneo* or *Bruni*, formerly the metropolis of a large independent kingdom, contains a population of about 20,000. It was taken by the British in 1846, and the small island, *Labuan*, 30 miles farther N., a few months afterwards. The latter contains a colony at Victoria, has a harbour, and extensive mines of excellent coal.

The Celebes Group, including the large island Celebes, together with Bouton, Xulla, &c., to the S. and E. of it, is situated to the E. of Borneo, from which it is separated by the Strait of Macassar.

CELEBES, the only really important island of the group, has an area of about 73,000 square miles, and a population of 2,500,000. The shape is extremely irregular, the island being broken up into a series of peninsulas. The surface is greatly diversified, and in the sublimity of its scenery is said to surpass any other island in Malaysia. The climate is healthy and agreeable, though hot in the low grounds. Minerals comprise diamonds, gold, copper, iron, salt, and sulphur. The forests, though not extensive, contain a great variety of trees, from one of which the well-known Macassar-oil is extracted. The trepang fishing and the catching of turtle occupy thousands of the natives, who consist of several races. The natives carry on extensive commerce with China, to which they export cotton, edible birds' nests, tortoise-shell, and pearls. Celebes was discovered by the Portuguese in 1512; but in 1660 they were expelled by the Dutch, who continue to control the island. Their principal establishments are *Menado*, in the N.E., and *Macassar*, near the S.W. extremity.

The Moluccas or Spice Islands, comprising Bouru, Amboyna, Ceram, Banda, Gilolo, &c., form a widely-scattered group, lying between Celebes and New Guinea. Area, about 43,000 square miles; population, unknown, but the portion under the Dutch, in 1868, contained 549,686 inhabitants.

The Moluccas are mountainous, volcanic, subject to earthquakes, and very fertile, producing nutmegs, cloves and other spices, fine woods, and a great variety of fruits. On the coast are numerous pearl and trepang fisheries. These islands are, for the most part, subject to the Dutch, whose chief seat of power is at *Amboyna*, which, next to Batavia, is the principal station of Dutch commerce in Oceania. The people consist of Malays, Papuans, Chinese, Japanese, and some Europeans.

The Sanguir or Sangir Group, consisting of an archipelago of 46 small islets, is situated in the Celebes Sea, north-west of Gilolo. Population, 12,000.

The Sooloo Archipelago, in the Celebes Sea, between Borneo and the Philippine Isles, consists of a group of above sixty islands, the principal of which is Cagayan, in the centre. Area, 450 square miles; population, 200,000.

The Philippine Isles, an extensive archipelago in the north-east of Malaysia, separated from Further India by the Chinese Sea, and from Borneo and Celebes by the Celebes Sea. Lat. $5^{\circ} 32'$ — $19^{\circ} 38'$ N.; lon. 117° — 127° E.

The group consists of about 1200 islands, of which Luzon, Mindanao, Palawan, and Mindoro, are the largest. The area and population are variously estimated; but probably the former is about 114,000 square miles, and the latter from 5,000,000 to 6,000,000. The area of the Spanish portion amounts to 52,148 square miles, and the population to 4,820,500. The islands are of volcanic formation, and numerous active volcanoes exist in the mountainous regions. Being situated within the range of the monsoons, the climate is moist, and hurricanes are frequent. The high temperature and abundant moisture produce a luxuriant vegetation, the character of which is not very different from that of Malaysia generally. The tobacco raised here is of the finest description, and the cigars of Manila have obtained a wide celebrity, while sugar and rice are extensively exported. The mineral products are abundant, comprising coal, sulphur, alum, magnesia, and marble; and the fauna, which in general resembles that of the other islands of Malaysia, embraces foxes, gazelles, monkeys, and crocodiles. The aborigines are of diverse origin, but are, for the most part, Malays and Oceanic Negroes. The Tagala and eleven other dialects are spoken, while the religion is partly Mohammedan and partly heathen. *Manilla*, on the south-west coast of Luzon, is the capital of the Spanish possessions in the East. Its population amounts to 15,000, and its commerce with India, China, America, and Great Britain, is extensive.

III.—MICRONESIA.

Micronesia, formerly reckoned a part of Polynesia, comprises the north-east section of Oceania, consisting of the numerous groups of small islands which stud the North Pacific Ocean, from the equator to lat. 28° N., and from the Philippine Isles on the west to the Sandwich Isles on the east. Area, 10,000 square miles; population, 250,000.

Except Hawaii, in the Sandwich group, they are of very small dimensions, of moderate elevation, and either of coralline construction or surrounded by coral reefs. The climate is salubrious and agreeable, being tempered by cool breezes from the ocean, while the vegetation is gorgeous in the extreme. The natural productions comprise the bread-fruit tree, cocoa-nut palm, banana, plantain, sugar-cane, taro-root, and numerous other edible roots and fruits. When first visited by Europeans, these islands, in common with those of Polynesia Proper, contained no quadrupeds except hogs, dogs, and rats; but the sea teems with fish, which, in some of the groups, constitute the main food of the people. The inhabitants belong almost exclusively to the Malay race, are of a dark brown colour, use little clothing, practise tattooing, and are averse to regular industry. Their religion was formerly Polytheism, embracing a belief in a future state; and their priests, who also acted as physicians, possessed an immense influence among them, as is evidenced by the singular institution of "Taboo." Whenever a priest chose to utter this word over any object, the owner was obliged to renounce all further claim to it; if his house, for instance, was *tabooed*, he durst not again enter it. The numerous languages spoken in all the islands of Polynesia and Micronesia are dialects of the Malayan. Till European missionaries introduced the Gospel, the grossest barbarism, licentiousness, infanticide, and cannibalism, prevailed throughout all Micronesia and the South Sea Islands; but now myriads of the inhabitants are found "sitting at the feet of Jesus, clothed, and in their right mind."

DIVISIONS.—Micronesia embraces the following principal groups:—The Bonin Islands, S.E. of Japan; Ladrone or Marianne Islands, E. of the Philippines; Caroline and Pelew Islands, N.E. of Papua; the Marshall or Mulgrave Archipelago, E. of the Caroline Group; and the Sandwich Islands.

SANDWICH ISLANDS, the most important group between Malaysia and the American continent, are situated about 8000 miles W. of Mexico, and about the same distance N.E. of Papua. The islands are fifteen in number, but only

eight are inhabited, the chief of which are Hawaii or Owyhee, Maui, Oahu, and Kanai. The area is estimated at 7,630 square miles, and the population (in 1892) at 69,800. When Captain Cook discovered the islands, in 1778, he estimated the population at 400,000. The Sandwich Islands are all high, steep, mountainous, and of volcanic formation. Hawaii, the largest of the group, contains two stupendous summits—viz., Mowna Kea, 13,953 feet high, and Mowna Loa, 13,760 feet. The latter is studded with about fifty cones, from many of which smoke and flame are continually issuing. The climate is mild and salubrious; mean temperature, 75° Fah. The range of the thermometer is very small, the rains are moderate, and in general the country is one of the healthiest on the globe. Gold has been discovered in Hawaii, and salt in Oahu. Wheat is raised in the uplands; and in the valleys, coffee, sugar, cotton, arrowroot, cocoa, bread-fruit, and various European and West Indian fruits. The natives, who belong to the light-coloured Oceanic stock, are a mild, docile, improvable race, who have very readily adopted the manners and customs of civilised life. Their language very closely resembles those of Tahiti and New Zealand; it was first reduced to a written form by the American missionaries, and contains only twelve letters—viz., five vowels and seven consonants. In 1819 the King publicly abolished idolatry, and embraced the Christian faith. Since then the Scriptures have been printed in the native tongue, churches and schools have been built, and constitutional government established. The islands are well situated for trade, being in the route between America and China, and constant communication is maintained with San Francisco. A treaty of friendship, commerce, and navigation between Her Majesty the Queen of Great Britain and the King of the Sandwich Islands, was signed at Honolulu in 1861. *Honolulu*, in the island Oahu, is the capital and principal port; population 14,000. Many citizens of the United States reside in these islands, which are greatly under American influence.

IV.—POLYNESIA, OR SOUTH SEA ISLANDS.

Polynesia forms the S.E. part of Oceania, embracing the numerous archipelagos and islands south of the equator that lie between Australasia and the 110th degree of W. longitude. Area estimated at 12,000 square miles; population, 300,000.

For an account of its general features, natural productions, race of people, religion, and languages, see under "Micronesia," the characteristics of which are almost identical with those of Polynesia.

DIVISIONS.—Beginning at the W. extremity, the following are the principal groups:—the Feejee Islands; Samoa or Navigators Islands; Tonga or Friendly Islands; Hervey or Cook's Islands; Society Islands; Austral Islands; Low Archipelago; and the Marquesas.

FEEJEE ISLANDS.—A group of about 200 small islands, 800 miles N. of New Zealand. The area is estimated at 8,000 square miles, and the population at 200,000. The sovereignty of these islands has recently been offered to the British Crown, and owing to their position and intrinsic value, they are calculated to be of very great service to our country, especially as a cotton field. Some of the islands are mountainous, and all of them are supposed to be of volcanic origin. The soil is fertile, and fruits of various kinds, together with cocoanut oil and arrowroot, are abundant. The natives are Papuans, a race which does not extend farther east; and hence the islands might with greater propriety be classed under Melanesia. Many of the natives have been converted to Christianity, while the remainder continue to practise cannibalism and human sacrifices. The islands were discovered by Tasman in 1643. They produce sandalwood in abundance, and contain admirable harbours.

SAMOA, OR NAVIGATORS ISLANDS, are situated about 450 miles N.E. of the Feejee group: area estimated at 1162 square miles; population, 34,000. They are mountainous and of volcanic formation, but surrounded by coral reefs. The soil is rich, the surface densely wooded, and the productions similar to those of the neighbouring groups. The inhabitants are Malays, and were very ferocious till Williams, the missionary, visited them in 1830, when many of them embraced Christianity. They are now fast advancing in civilisation.

TONGA, OR FRIENDLY ISLES, S.E. of the Feejee Isles, consist of three clusters, of which the Tongataboo group is the largest. The population is about 25,000. They were discovered by Tasman in 1643, but received their collective name from Cook, on account of the hospitality shown him by the natives, who, however, are now known to be deceitful and treacherous. The first missionaries sent here were massacred, but of late years others have met with considerable success. Cocoa-nut oil is almost the only important export.

HERVEY OR COOK'S ISLANDS, E. of the Friendly Islands, embrace the scattered islands of Rarotonga, Atiu, Mangela, and several others, nearly all of them lofty and volcanic. They were discovered by Cook in 1773; but Rarotonga was first made known by the missionary Williams, who laboured here with singular success. The population, who are estimated at 10,000, are of the Malay race.

SOCIETY ISLANDS, N.E. of the Hervey group, consist of about 10 conspicuous isles, all of them lofty, volcanic, fertile, and surrounded by coral reefs, against which the vast waves of the Pacific break with terrific grandeur. Area, 670 square miles; population, 18,000. Tahiti, the "gem of the Pacific," is extremely beautiful, contains mountains 7,000 feet high, and clothed to the summits with a rich and luxuriant vegetation. The exports consist of pearls, pearl shell, cocoa-nut oil, sugar, and arrowroot. Tahiti was forcibly taken possession of by the French, in 1843, who now claim a protectorate over this group, together with the Gambier and Wallis Islands. It was to the Society Islands that the first messengers of the Gospel to Polynesia were sent, and from their shores successive missionaries have sailed to the neighbouring isles.

THE AUSTRAL ISLES, so called from their position south of Tahiti, are lofty, fertile, and beautiful, and contain about 1000 inhabitants, who closely resemble those of the Society Isles.

THE LOW ARCHIPELAGO, E. of the Society group, consists of an immense number of coral islands, only slightly raised above the surface of the ocean, rendering the navigation intricate and perilous. The Gambier Islands, however, in the S. of the Archipelago, and Pitcairn Island, further eastward, are high and volcanic. Very few of them are inhabited, the population of the whole probably not exceeding 10,000. Pitcairn Isle is of interest as the refuge of the mutineers of the *Bounty* in 1789.

THE MARQUESAS lie 900 miles N.E. of Tahiti, and 2000 miles S.E. of Hawaii. Area, 480 square miles; population, 12,000. They are of volcanic formation, with mountains rising to a height of 5000 feet; while the interior is fertile, producing yams, pulse, cocoa-nuts, sugar-cane, and wild cotton. The inhabitants are Malays, and are the least civilised of all the natives of Polynesia. They carry on war with the most savage ferocity, and practise cannibalism. The French, since 1842, have occupied the two largest islands, and claim the whole group as a colonial territory.

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SUCH is the name given to those extensive tracts of land, recently discovered within the Antarctic Circle, by British, French, and American navigators, and supposed to form portions of a great continent round the South Pole. As the leading features of this inhospitable region have been described in our remarks on the "Antarctic Ocean" (p. 11), we here merely remark, that should the explored tracts be found to be continuous, and the existence of a Southern Continent put beyond doubt, we shall then have seven continents—viz., Europe, Asia, Africa, North America, South America, Australia, and Antarctica; and seven corresponding oceans—viz., the Arctic, North Atlantic, South Atlantic, Indian, North Pacific, South Pacific, and Antarctic Oceans!

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